

Future Leaders in IT

Technology



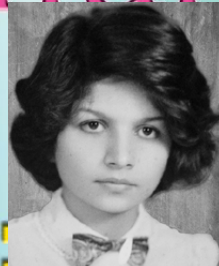
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Women Leaders in IT



Technology



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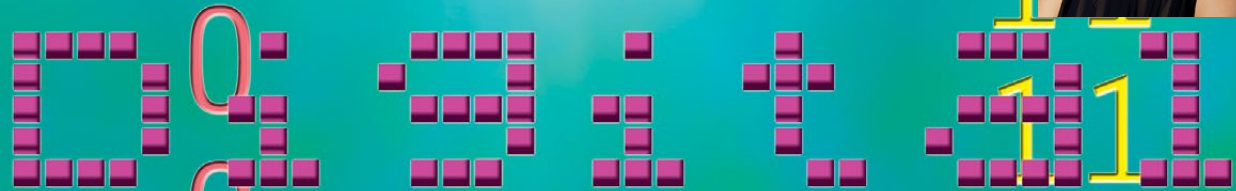
Strategy



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Future Leaders in IT

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Publisher & Editor,
Writer, Art Direction,
Graphic Design, Layout,
Videography, Production

Margaret Torrance
margaret@mvj-group.on.ca
416-445-2478

MVJ Group Inc.

SPONSORS

Magna International
BMO Financial Group
Nina Thomsen
Anonymous
Anonymous

CONTRIBUTORS

Margaret Torrance (Sponsor);
Joey Miller (Sponsor); Steve
Tennyson (Sponsor); Georgia
Woods (Sponsor); Nina
Thomsen (Personal Donor);
Lally Rementilla; Linda
Fitzgerald; Cheryl Lundrigan;
Susan Doniz; Gale Blank; Robin
Nelson; Jodie Wallis; Vanda
Vicars; Fariba Anderson; Elaine
Mah; Parna Sabet-Stephenson;
Tanya Shaw; Madeleyne
Vivanco; Lynda Brown-Ganzert;
Shelley Lineham; Judy Dinn

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Magna International*



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BMO Financial Group*



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Aimia*



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*SVP & CIO
Walmart Canada*



26 – Robin Nelson

*Director IT
Roots Canada Ltd*



28– Jodie Wallis

*Managing Director
Accenture*



30 – Vanda Vicars

*CEO Canada Infrastructure
Capgemini*



32 – Fariba Anderson

*Chief Executive Officer
AcuteNet Inc.*



34 – Elaine Mah

*Director
Intel of Canada Ltd.*



36 – Parna Sabet-Stephenson

*Partner
Blake, Cassels & Graydon LLP*



38 – Tanya Shaw

*President & CEO
Unique Solutions Design LTD.*



40 – Madeleyne Vivanco

*CIO
Procter & Gamble Canada Inc.*



42 – Lynda Brown-Ganzert

*Founder & CEO
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Publisher's Address



Margaret Torrance
President
MVJ Group Inc.

During an awards luncheon for “Women in IT”, a panel of Information Technology (IT) women executives discussed the dire situation the industry/profession was facing when it came to the number of women in their field.

Since 2000, the number of women in IT/ICT (also referred to as Information and Communications Technology), has been on a steady decline – down to 21% in September 2012, from 23.7% in June 2011 and from 25.3% in March 2000 (Statistics Canada, Labour Force Surveys). The well-documented “leaky pipe” begins in elementary school and continues into the workforce. Studies* have shown that by grade 9, girls had already made up their minds not to enter this field.

Girls' Beliefs	Girls' Wants	The Truth
<ul style="list-style-type: none"> • Too boyish and geeky • Industry is singularly computer-focused • Less related to real world applications • Not interesting, fun, cool or creative • Isolated, antisocial, & gimmicky male endeavours 	<ul style="list-style-type: none"> • More visible role models • Real life examples and applications • Careers that are social and communicative • Solve pressing social problems in various fields • Work with others as part of a creative team 	<p>All their beliefs are the opposite to reality, and all their wants are in fact reality.</p>

Having taught math to this age group and given my business history in publishing, marketing/branding and design, I felt I had a solution on how to change the negative perception, how to educate not only the girls, but all the students, the educators and the parents, and how to provide a teaching document for guidance counsellors. ***This interactive, multimedia PDF e-magazine is my answer.***

The women showcased here are representative of many wonderful women leaders in IT/ICT. They are intentionally chosen from many different fields. Their words and their personalities are on the page. In their videos, they speak to the girls. These women champion girls in IT.

Read through their mini mentorship pages and view their videos. There are common themes found. Information Technology is in every industry and in every area of a company; the women are all passionate about IT; these women interact with people all the time; women in IT are very creative; women are problem solvers; women think differently than men; women are needed in executive positions; women can raise a family and work in IT; students need to take advanced math; girls can enter any area they are passion about, by having a career in IT; and...

I hope you enjoy this publication and highlight it on your websites for everyone to learn. Thank you!

* Reference studies:
1. ICTC: Breaking down Barriers to Women in ICT, May 2005
2. ICTC: The Focus on Information Technology (FIT) Program: Gender-based Analysis – December 2009
3. CCICT: Conference Board of Canada, Connecting Students to Tomorrow's ICT Jobs and Careers, May 2009
4. NCWIT Scorecard: a report on the status of women in information technology – USA Study 2009

Questions girls going into Grades 8 and 9 wanted these ladies to answer.

In June 2012, Margaret Torrance visited a few schools in Toronto to learn what girls going into grades 8 & 9 really knew about Information Technology (IT) and careers in IT. The girls knew little or nothing, other than they used more technology than boys did. The educators and the parents also had limited or no knowledge, and interestingly enough, many children of IT executives also knew little or nothing. After speaking to the girls about IT, they were asked what they would like to ask senior women executives about IT and their careers.

Their questions were narrowed down to the following 39, categorized and shown in 4 videos. Three representative girls read these questions. The purpose of the videos (restricted private viewing) was to ensure the women's answers were educational, age-appropriate and indicative of the girls' lack of IT knowledge.

Although focused on girls in Grades 7-9, this is meant to educate everyone in the schools and the students' parents.

Video 1: IT and education

- How would you define IT?
- What characteristics do you need to be successful in your industry?
- Do you have to learn programming to be in the IT industry?
- How much experience and education do you need to get a job in the industry?
- What non-computer or math courses could be valuable in the industry?
- Is IT all computer focused?
- What courses are you required to take?
- Can you explain IT in your career?

Video 2: IT jobs and careers

- What process or steps did you take to get to your current position?
- What type of problems do you solve?
- What inspired you to work in your current job?
- Could you give us a brief description of a typical day in your job?
- How much does your job allow you to interact with others?
- How does your business incorporate IT?

- What interests you most about your job?
- If you have a career in IT, is any travelling required?

Video 3: Women and men in IT

- Do you ever feel undervalued by the men in your industry?
- Why is it important to have more women in the IT industry?
- How does IT influence women?
- How do women influence IT?
- Personally, I've already decided that if I were ever to go into the IT industry, I would pick a career over family life and my question to you is basically, "Are you able to have the best of both?"
- How does IT affect you personally?
- Why do you think I should consider IT as a possible career?
- Would men look down on you because you're a woman?
- Why is IT stereotyped to be a man's job?
- What might influence more girls to consider an IT career?
- What would be the monthly salary of an average woman working in IT?

- If more women use technology than men do, why are men in charge of information technology?
- Is it difficult to work in an industry mostly dominated by men? Why or why not?
- Working in a male dominated industry, how does it feel to be a high ranking executive?
- If you have a career in IT and become a mom, how do you balance both?

Video 4: IT past, present and future

- Who influences the types of games that are produced and why do they tend to be very violent and sexist?
- How do you think the IT industry will develop over the next couple of decades?
- How does making movies involve IT?
- How does directing commercials, movies and music videos involve IT?
- How has IT changed your job over the last 15 years?
- Can you think of a job or anything that IT is not involved in?
- Why did you choose to work in IT?



Joey Miller
*Vice President Global Information Technology
Magna International*

Be open to whatever sparks your passion.

One message that I would like to leave for you is to encourage you to always follow your passion. Don't let your interest in IT or your interest in a particular area of business or in any kind of a marketplace, sway you.

For example, I work in automotive and a lot of times people will say, "Well what's a girl doing in automotive? Don't you feel threatened or are you not comfortable in automotive because you're working with men?" And my answer is, "Absolutely not!"

If you're working in something where you have a passion, that comes through. And I have to say, that working in a male dominated world is a delightful experience. It allows me to bring the special skills of being a female to the table. Women look at life differently. They look at work problems differently. They look at projects differently. Women tend to look at a broader array of solutions than men do. And so working side by side in a man's world, we bring our unique skill to them and they bring their skill uniqueness to us, so that we're always learning.

Don't let anything scare you. Be open to whatever sparks your passion.

Future leadership roles for women in IT/ICT

Throughout this e-magazine, we have used Information Technology (IT) because of this sector's past designation and because most of our leaders referred to it as IT, but the updated term is Information and Communications Technology (ICT).

The hope of this e-magazine is to educate girls about an exciting career in information and communications technology, to help increase the number of women (in September 2012 only 21%) in this sector and consequently, to increase the number of female leaders. And although there has been a decline in the number of women in IT/ICT occupations, the future for leadership roles for women has never been better.

Sharif Faisal, Labour Market Analyst, Policy Development and Research, Information and Communications Technology Council* wrote an article in October 2012 titled, "Encouraging outlook for women in ICT sector leadership roles".

Faisal states, "In an extensive 19-year study of 215 Fortune 500 firms, the European Project on Equal Pay (2009) showed a strong correlation between successfully promoting women into the executive suite and high profitability. Harvard Business Review (2009) declares that "the standard argument is that diversity is good and you should have both men and women in a group. But so far, the data show, the more women, the better." "Since these studies,



Steve Tennyson
*BMO Diversity Renewal Council Member
Executive Vice President & Chief Information Officer
BMO Financial Group*

Encouraging more women to have a career in the IT industry is an important global issue and one that we strongly support.

Nearly every job in the future will involve technology. As technology spills over into every aspect of our lives, the line between technology and other industries is blurring. And it is the technology driven solutions that will result in greater business success.

Understanding technology will be essential to successfully compete in tomorrow's job market. This is true regardless of gender. However as the demand for the high tech worker continues to grow, we will need more top talent. And it is important to have more women fill that gap as a diverse workforce is known to have many benefits including sounder decision making, better problem solving and greater creativity.

With career success and technology skills so closely linked, now is the time to consider the education you need to keep all of your career options open. Like so many companies today, we know that having more women join the IT industry will have positive effects on our company, economy and society overall.

more research has confirmed these findings. Your timing is perfect.

Faisal continues by saying, "Technical prowess, business acumen, and interpersonal abilities are known essential skills in management roles and women in the ICT sector prove to have that in abundance. Women tend to inspire self and others, develop human resources, engage in succession planning, and make participatory decisions just as well as men, if not better. These are also leadership traits that are critical in meeting business challenges and reinforce a company's performance."

Faisal concludes, "To get the best of the female talent pool, it is important to bear in mind that recognizing the advantages of having women in leadership positions and even actively seeking to install them in these positions are not enough. Companies have to

create an enabling, welcoming environment, adapt the workplace to address and meet the family-related needs with flexibility. Demonstrating that an organization values talent and skills, not the gender of the persons that possess them, is critical."

The world is changing and very quickly. The women featured here are just a sample of those who have blazed a leadership trail. Many of these women refer to the fact that women bring different things to the table and it is that combination of what men and women each bring, that makes for a more successful and profitable company. **They are living what the research proves.**

**The Information and Communications Technology Council (ICTC) is a centre of expertise in Information and Communications Technology (ICT) research, policy development and workforce solutions.*

Automotive Manufacturing Industry



Joey Miller
VP Global Information Technology
Magna International

I am head of Global Information Technology (IT) for one of the largest automotive suppliers in the world. We design and manufacture many different parts – mirrors, windows, dashboards, seats... – for many car companies. Being in a traditionally male dominated industry, means I am often the only woman in the room. And being called ‘Joey’, means people who don’t know me are always wanting to talk to Mr. Miller. That doesn’t make it uncomfortable. I love the manufacturing process and what I do. If you have a passion for your work, it doesn’t matter if you’re male or female. So yes, sometimes I walk into a room and they look behind me looking for Mr. Miller, but that’s okay.

Is IT all computer focused?

Absolutely not! When you think about computers today and you think about where computers will be tomorrow, we probably aren’t going to have computers like we think about. The idea of IT being about computers is something that we really have moved beyond. Don’t get hung up on computers because those days are really behind us now. Think about them as devices that gives you information – information that makes you interested, whether it be in a book or a movie, or helps you with your school work, or helps you answer a question. It’s the information you need to think about. Don’t worry about the technology or the computer part.

How much does your job allow you to interact with others?

I interact with others all the time, and that’s why I do what I do. I love the fact that I’m helping bring solutions to problems. But why I get excited every day when I come in, is because I’m interacting with people – people who put together the parts, engineers who design the cars, management and with the guys in IT. IT people are a very special kind of person. They are creative, out of the box thinkers, very bright, very approachable (not scary) and they find humour and joy in everything they do. I’ve been working in IT for over 30 years and every single IT team I have worked with has made me laugh every day.

What interests you most about your job?

It’s what you hear other women in IT talk about, because it’s what women like to do – we like to manage or fix problems. We like to hear about something that’s driving you crazy or that needs to be done and then we like to find the solution for that. We like to marry those two together and that’s what IT does. It’s the information technology that pulls that information together and answers the questions. So what interests me about my job? It’s being asked all different kinds of questions, finding answers and working together to make the business successful.



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Why do you think I should consider IT as a possible career?

I think you should consider IT because I don’t know of many other fields that you can find a job in almost any market. I work in the automotive market, but tomorrow I could work in finance, in retail, in education... . There are times that I’ve taught at the university level. Because IT is everywhere, as an IT professional, you can go anywhere and that’s a huge thing. You’re not limited to a



particular industry and that’s exciting. And IT is so varied. If you like to work by yourself and really concentrate on a problem, maybe you should be a programmer or analyst. If you like to work with people and help them load programmes onto their devices and answer their questions, consider IT support. If you’re a strategist, overseeing where the company is going and how to put all those pieces together, be an architect designing the solutions, or be a part of the top management. You’re not limited.

Why is IT stereotyped to be a man’s job?

People when they first think of IT, think about math and about hardware and about

bits and bytes, and technology being something that is difficult to put together, but IT is so much more. IT is information. IT is making a solution to a problem. IT is bringing innovation to no matter what business it is. When you think about those hard pieces of IT – building a computer, doing the math – traditionally that has always been *thought* to be more of a male interest and I have to tell you, that’s not the case. Women can do the hard part. They can build computers; they can build phones; they can build tablets; they can do the math; they can do it all just as well as any man can. It’s that we haven’t *thought* about doing it and it is time for us to think about doing it.

Financial Industry – Banking



Georgia Woods
VP & CISO
BMO Financial Group



What courses are you required to take for a career in IT?

It's important to include the science and math subjects, but remember you will have time to specialize later in your schooling too. Think about participating in extra-curricular activities. I know I learned a lot from my participation in team sports such as basketball, volleyball and track. There will be a lot of opportunity to work on teams if you choose a career in IT, so practicing those team-working skills early will really help.

Why did you choose to work in IT?

I was very fortunate to grow up and learn about IT from my father. Because of my dad's support I chose to begin my

As the Chief Information Security Officer, I am responsible for making sure that our customer's information is always safe. In other words, I keep the hackers of the world away from our bank.

Many believe that a career in IT means a lifetime in an isolated cubicle writing code. That is simply not a fair representation of the wide variety of career opportunities available or the skills needed to work in this industry.

I have worked in IT for over 25 years. I love my job and I am passionate about the career choices I have made. What I like best about working in IT, is making a difference in people's lives.

career in IT after my 2nd year of university, but I stayed in this industry because I love to be challenged to find technology solutions to everyday obstacles.

Why is it important to have more women in the IT industry?

Women represent 50% of our population and it just makes sense to have equal representation in the IT field. Having women on IT teams brings substantial benefits. Women are recognized for having a broader set of talents that include interpersonal skills and creativity. And as a result, having more women work in IT can lead to improved service offerings that reflect the wide variety of interests of consumers.

Women are so smart and are often better at integrated thinking. When you pair all the positive attributes that women bring to IT with the fact that it is an industry that will desperately need more skilled workers in the future, it is clear that we cannot afford to leave women behind.

Why do you think I should consider IT as a possible career?

I can think of so many reasons:

- There are always new challenges that call for unique technology solutions. This variety and quick pace keeps things interesting.
- Working on teams is standard practice for many IT workers and you have many opportunities to work with interesting and diverse groups of people.



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Travel opportunities are often available depending on the work you choose to do. Throughout my career, I have travelled across North America, Europe and even had an opportunity to work in Chicago for over a year.

If you have a career in IT and become a mom, how do you balance both?

This is a challenge for anyone with a career - man or woman. What I have to remind myself sometimes is that it's not about the quantity of time you spend

with your kids, but about the quality of time you spend with them.

Never underestimate the positive impact you can have as a role model if you become successful in your career. Kids will notice when mom comes home from work happy. More importantly you will show how a woman is equally capable to be as successful as a man.

When balancing an IT career and family, it helps to

have an employer that offers flexibility. In technology it is common to be part of a business environment where you work with virtual teams. Using various technology tools for collaboration can lead to opportunities to work from home when needed. I know this has helped give me some flexibility in my own work schedule over the years.



I would like to share one final piece of advice for those considering a career in IT: Develop a network of people who will support you – a teacher, a parent or even a mentor of someone in the industry. Having people in your life that will encourage you to succeed, help keep you focused and provide motivation, will be truly beneficial. I was very fortunate to have my parents support me in my career, especially when 30 years ago there were not many women studying Computer Science. If you find the right support network, your path to success will undoubtedly be much smoother.



Health Care Industry – Retirement Living & Long-Term Care



Nina Thomsen
Chief Information Officer
Revera Inc.

What process or steps did you take to get to your current job?

I took the co-operative Math and Business Computing Science program at the University of Waterloo. On my co-op work terms, I was a programmer, a systems analyst, a business analyst – all roles that contributed to my understanding of how to relate business needs to IT solutions. Upon graduating, I joined a consulting firm and worked with different organizations, business models and technology platforms. I



I'm the Chief Information Officer (CIO) for Revera Inc., a company which provides seniors' accommodations, care and services. I lead a team of over 60 people who run the systems and technologies that support our front line employees who deliver care, as well as all the corporate systems. Before this, I worked as a consultant with organizations across different industries, implementing solutions through technology. Even after 25 years in Information Technology, I'm still excited about my job. It's an ever-changing and innovative area that allows you to work in a team to solve interesting business problems and continuously learn.

learned a lot about how IT supports a business in day-to-day activities and how it can change a business over time. This prepared me for an IT leadership role at a retail organization where I honed my IT management and decision-making abilities. Being the CIO at Revera and taking responsibility for all the systems, technology and people associated with supporting them, was a natural next step.

What non-computer or math course could be valuable in the industry?

I strongly believe that regardless how technical someone's role is, communication is key to being successful and will provide opportunities for further growth. I started university in the Arts program and I found that learning to think critically

and express my thoughts clearly both verbally and on paper, are significant lifetime skills. I really encourage people to enhancing their communication and critical thinking capabilities.

Business administration courses provide excellent basic skills in strategy, operations, finance, human resources and law. Add in computer knowledge and you have a real powerful combination that can take you anywhere.

What inspired you to work in your current job?

Our company is about people taking care of people and that is very meaningful. Our systems and technology help the nurses, personal support workers and other employees deliver care and more to our

Personal Donation

residents and clients and this motivates me on a personal level.

What interests you most about your job?

I love working with people, continuing to learn and creating ways for IT to assist our services. I interact with people every day – working with my team, my colleagues, and external vendors and partners. I also listen to our employees in the field and then my team tries to solve their challenges and incorporate their ideas. Healthcare is a field that is always evolving.



How does your business incorporate IT?

Mobile and wireless devices allow nurses and personal support workers to instantly retrieve and record health information. Electronic medication administration provides a way to connect doctors, pharmacists and nurses. In home healthcare, we're piloting tablets and smart phones to allow staff to access and update their records on the go.

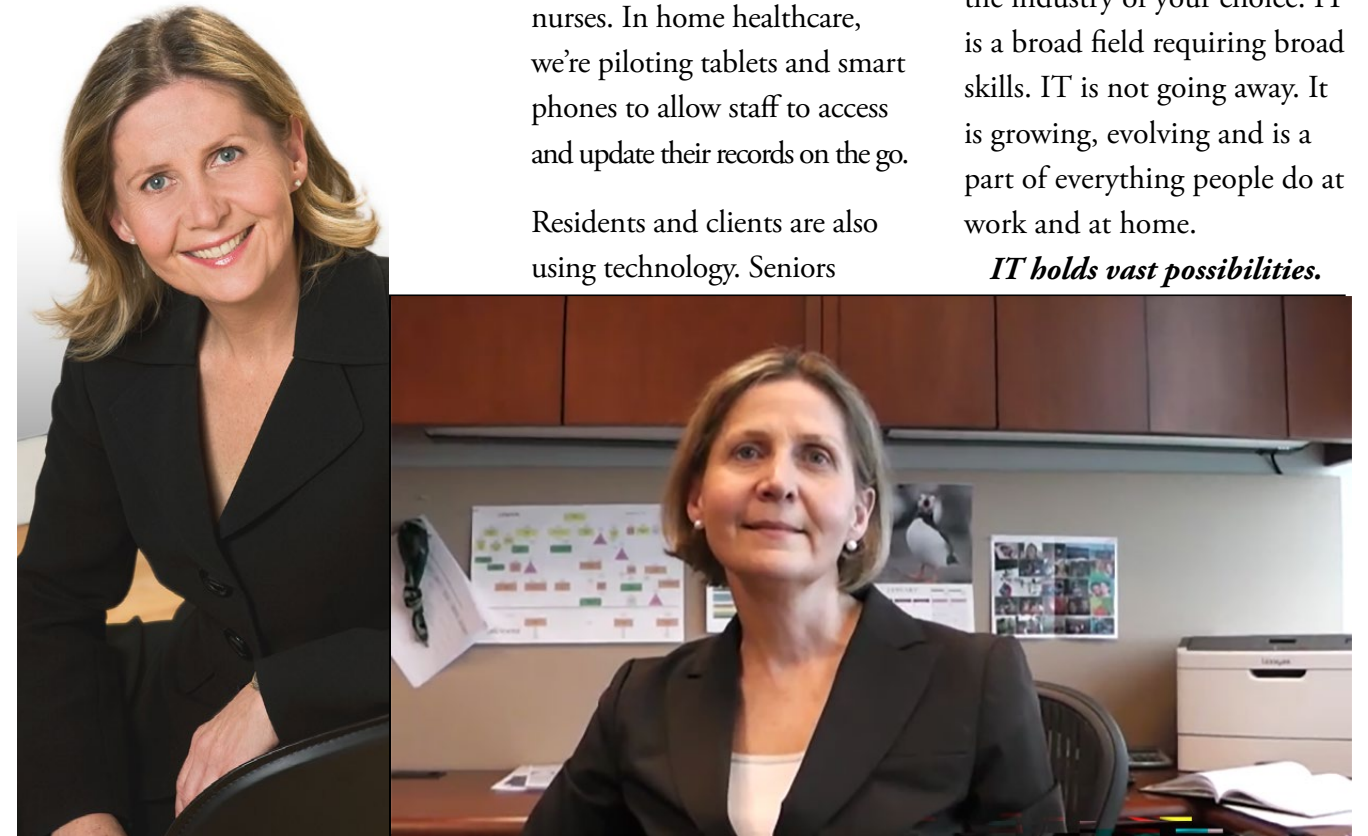
Residents and clients are also using technology. Seniors

living at our sites, want to communicate with their families and friends through e-mail and video conferencing.

What might influence more girls to consider an IT career?

Think about being part of a team and creating something of value – having fun doing it, learning while doing it and preparing yourself for an exciting and wide, world of opportunities! You can bring your social skills, your analytical thinking and your technical capabilities to the table and make a difference in the industry of your choice. IT is a broad field requiring broad skills. IT is not going away. It is growing, evolving and is a part of everything people do at work and at home.

IT holds vast possibilities.



Software for Packaging & Manufacturing Industry



Lally Rementilla, VP
Finance & Administration
Nulogy Corporation

How much experience and education do you need to get a job in the industry?

The cool thing about IT is that no matter what kind of education or experience you have, you can get a job as long as you have a keen interest in technology and how it makes a difference in people's lives. Obviously, those with degrees in computer science, engineering and math are hired in technical jobs such as software development and product management, but did you know that IT companies such as Apple look for talented graphic artists and designers?

What non-computer or math courses could be valuable in the industry?

A lot of IT companies struggle to find how they could make money with the technology they

I work at a software company that helps packaging and manufacturing companies become more efficient and allows them to grow their business. My knowledge and experience in technology and finance helps our company, our investors and our customers become successful. Yes, I look at a lot of numbers and spreadsheets, but I enjoy it because somehow I find ways of making the numbers tell a story, and the story leads to innovation and creative problem solving.

have developed. Sometimes the technology is so advanced, no one knows how to make money from it yet. Taking marketing and finance courses will give you a good foundation to ensure that the technology being developed has a chance of being a viable product and of being profitable one day.

Could you give us a brief description of a typical day in your job?

I start the day reading about what's happening in the industry, especially with our clients and our competitors, so we can react quickly and appropriately.

Then I focus on the important things that I need to get done that day – finding ways to increase sales or investing money (e.g. hiring people or spending on a marketing campaign). I also interact with our customers – negotiating

contracts or making sure that they are paying us on time. Every month, I also look at how well we did financially to make sure that we are keeping our promises to our investors and to understand how we can make the company more successful.

In the afternoon, I have a lot of meetings. I meet with my team at least once a week to give both positive and constructive feedback on their work and to brainstorm ideas. And I meet with other departments to problem solve together.

It is important to build a network of people where you can help each other, exchange ideas and build relationships. I make an effort to attend functions and participate in volunteer boards, such as the Information Technology Association of Canada (ITAC), and meet with women who have started IT companies.

If you have a career in IT and become a mom, how do you balance both?

It's important to have a husband or partner who is very supportive of what you do and who is willing to share in at least half of the work required to run a busy household and raise children. My husband is that and more. He knows how important my career is and makes me focus my time and energies on things that will make me successful. He does a great job of taking care of our daughters especially if I

am working late or need to go on a business trip. When I first met him, I told him that I was going to speak at a conference about women with IT careers. He offered to watch me speak to give me moral support. That was when I knew that he was the man I was going to marry!

If more women use technology than men do, why are men in charge of information technology?

Men were traditionally in charge of information technology companies because frankly there have been more men in the industry than women. Can this change? You bet! Women in information technology are now becoming successful at showing the world that they can take on the top jobs.

Do you ever feel undervalued by the men in your industry?

Certainly not. Men I have worked with have been very supportive and many male bosses have given me a lot of promotions and opportunities to use my strengths and talents. Male team members have really appreciated the creative ideas I have brought to the table.

The key to working with men is being able to interact with them in and outside the office. In the office, I try to understand their problems and contribute solutions for successful outcomes. Outside of the office, I have learned that being interested in sports makes it easier to interact with men. That's why I started *The Gal's Got Game!* (see Directory)



Hardware & Software for Self-Service Industries



Linda Fitzgerald
President
NCR Canada

What would influence more girls to consider an IT career?

Everything around us involves some type of technology and young girls would benefit from a better understanding of the various jobs offered. Most people view IT as programming and that is one job opportunity, but the IT field is vast and IT skills are needed in other areas including:

- Operations
- Marketing
- Social media
- Sales
- Services

For example, my first job was as a technical sales person where I helped sales people demonstrate the benefits of a computer product. I needed to understand the functionalities, but I was not sitting at a computer all day. The field of

My kids like to tease me because I lead a technology company, but I can't even programme our VCR. Like most people, my kids think the people who work at technology companies are all engineers who make products and design all of the tiny little pieces that make them work. I understand how our products work and how they benefit our customers, but I can't build them. Over my 25 year career, I have been a programmer, a trainer, a mentor, vice president of sales and now president. I am so passionate about information technology and I love how it continues to transform the world in the most fascinating ways. *The sky's the limit for creative girls who want to transform businesses.*

IT is in constant evolution and the different roles available continue to get even more



interesting. Someone can start on the technical side like me, move into direct sales and then management or marketing. The field is a fantastic fit for someone who likes to learn and keep up with the changes in the field. There is never a dull moment when you work in the IT. The only constant is change. This makes it very exciting and very rewarding.

What interests you most about your job?

The constant evolution of the market. I liked school and I like to learn and keep up with changes and this is a very important part of working in IT. You need to understand how technology is evolving in your organization and understand your competitors. It's interesting to see what they are doing, how they are doing it and how you can do better. I develop the strategy for our market, and in doing so, I utilize the learning from my education coupled with all my years of experience in the field. It is very rewarding to develop strategy and to achieve the goals you set for the year. I also manage people and customer relationships. Working with people is what I like the best –

the interaction I have with the employees and customers is a large part of my role and the part that I enjoy the most.

Do you feel undervalued by the men in the industry?

I have met some great men and great women in the IT industry. What is important is the skills the person has and how they learn through their various jobs, it has nothing to do with their sex. Women have great organizational skills which are very important at the beginning of your career as well as throughout. Women are great at listening to customers and employees, and are very analytical. If they perform well they are usually valued by the men and women in the industry.

If you have a career in IT and become a mom, how do you balance both?

I have an IT career and I have 2 kids (adults in university). I was fortunate to be able to work part-time in the IT industry when my kids were infants. I eventually went back to work full-time. My kids were extremely happy in daycare with all their friends, so I had peace of mind when I was at work. I spent some quality time with them at night, working on homework and sharing what I was doing in my job. I also spent a lot of time with my family on the weekends going to the cottage and enjoying sports together like skiing. I brought them to my work a few times so they would understand my job.

I traveled quite a bit so this needed a lot of organization, but if you are well prepared it works. If you love your job then you are in a great state of mind when you are home, and everyone benefits.



Health Care Industry – Electronic Health Records NL



Cheryl Lundrigan
Project Manager, NL
Centre for Health Information

I love IT and all the exciting jobs I have had in the IT field, over the past 25 years. Right after graduating University in Computer Science, I worked with people designing the new Canadian Navy's Frigate Ships. On one assignment at the Hibernia oil project, we simulated ways of deflecting icebergs from hitting oil rigs. At the RCMP, we were trailblazers when we installed laptops in their patrol cars – today it's the norm. An engineering company allowed me to travel as our team provided IT support around the world to 30,000 staff. And I sit on the National Board of Directors of CIPS (the Canadian Society for IT Professionals), who support and encourage women to pursue IT careers.

Is it difficult to work in an industry mostly dominated by Men? Why or Why not.

For me, I didn't really notice it. Once I started working in a new job, regardless of what it was, what mattered most to me was that people were nice and helped me learn more about the job and my role. Within a few months, once everyone got to know me and saw what I could do, I earned respect and was treated the same as everyone else. Being a woman doesn't matter when everyone acts maturely at work.

One thing you may be surprised to hear, and I think it is a very good thing (and you should strut your stuff about it) is that women bring a different point of view to work places that have typically hired men.

What might influence more girls to consider an IT career?

Where do I start?

- There are lots of IT jobs to pick from and there will be even more choices in 6 - 10 years when you finish your education.
- Computer and communication specialists are needed in every company, making them valuable employees, who get paid big bucks!



- Technology continues to improve getting faster, bigger, and smarter, yet also cheaper, smaller and still smarter. Who can text faster? You or your parents? Everything changes so fast that there will always be a need for IT professionals to help people learn how to use all the new tools, apps, technology, and software.
- IT is so huge you can choose your

own special type of work that makes you happy! IT allows you to work closely with others as a team, it also allows you to work on your own if that is what you prefer. It only depends on what type of work you want.

- Compared to other traditional areas of study such as Physics, Theatre, Art or Medicine, IT is only a baby! If you want to be in on the ground floor of a new field and bring your creative edge of new ideas, concepts and technologies and possibly change the world with IT, go for IT!

Make sure you are ready. Talk to your teachers this year about the courses you'll need to take so when the time comes you can do IT.

Is IT all computer focused?

Yes and no! During my early jobs I helped people learn how to use their computers. They all had jobs to do and

I was the person they went to when they needed help or if their computer broke. The computer was the tool they used to do their work and I was lucky enough to be the computer specialist. I got to work hands-on with people every day and help them with their computer problems. I also enjoyed crawling under peoples desks (with their smelly shoes) and run cables



and connections. Yes, that job was very computer focused.

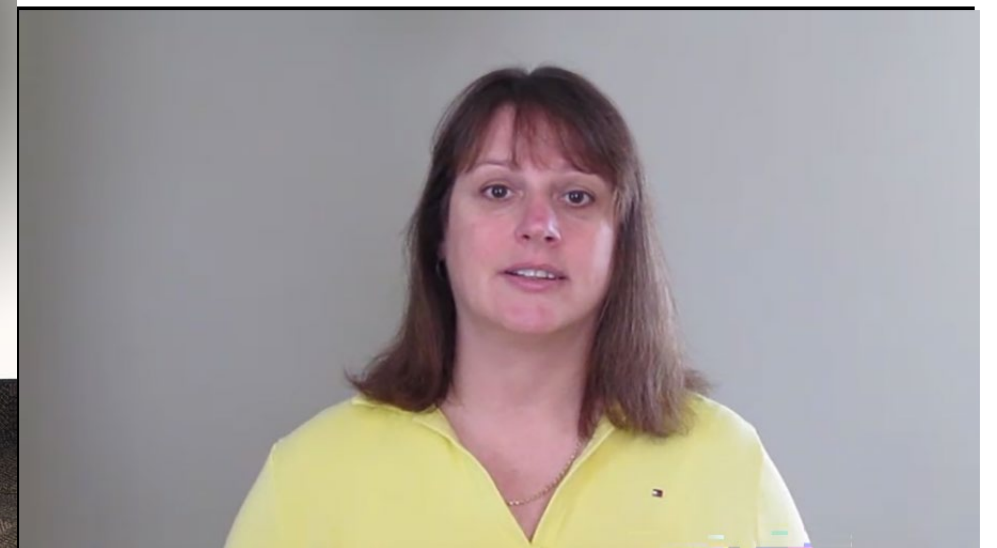
Today, I work in electronic health care and, as a Project Manager, I oversee the work that my project team is responsible for. My team is helping to build a system that will allow doctors and nurses and other health care providers to have better electronic access to their patients' health care information from the different places they receive care. Blood tests, x-rays, pharmacy prescriptions, specialist visits and other important health information will all go into electronic health records.



The computer will even have the digital pictures of x-rays! Even though this is an IT project and is extremely important to our health care system, I do not physically move files, write computer code, build web pages or set up computers. However, since I understand how everything must fit together, I can manage the work that needs to be done.

Can you think of a job or anything that IT is not involved in?

No. IT is involved in every industry and field of study! Computers are used as a tool in every possible way and it is only going to get bigger!



Loyalty Industry



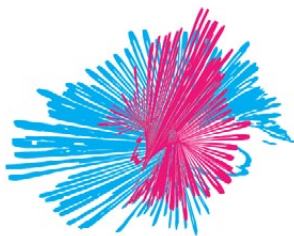
Susan Doniz
SVP & Global CIO
Aimia

How would you define IT?

I look at IT in 2 ways. First is information. How can the access to information make someone's life/job easier? What kind of information would help? What method of receiving it would make a difference in the outcome of the strategy?

Obviously, the second is technology. How can we use either new waves of technology (internet, mobile, cloud) to make changes to how our consumers or clients engage with our products or services?

IT is about looking for creative ways to solve problems by applying information or technology to the work.



I see life as a continuous learning journey and am excited to be in a field that allows me new ongoing learning experiences and the opportunity to work with inspiring people on a daily basis. At Aimia, I actually have 3 great jobs, all using technology and information technology. I am the leader of Digital (how to enable new business models), Chief Information Officer (how to enable companies to be more loyal to brands) and most recently head of Product (defining what global services we should offer clients and what features they should have).



Do you have to learn programming to be in the IT industry?

Many people associate a career in IT with programming, but this is only one small 'specialization' within IT. Just as being a doctor has many areas of practice, such as surgeon, pediatrician, or anesthesiologist, so does IT. You can work on governance which allows you to run IT as a business; or work with vendors; or work on implementing IT projects across industry sectors, regions or work processes.

Much like a doctor, there are basics that you learn, such as programming, that serve as a fundamental. However, only those that have chosen their specialization as programming, actually program a line of code after their initial training.

How much experience and education do you need to be in the IT industry?

Each job is different, but knowing about business really helps. I graduated from Engineering at University of Toronto and then had the wonderful opportunity via a Rotary Scholarship to study a Master's Degree in IT in the Netherlands. After being hired by Procter & Gamble in Europe, I was transferred to Latin America and then back to Canada as CIO. Next I joined Aimia in their new role of CIO. Throughout my career, I was able to learn about Finance, R&D (Research and Development), Supply Chain, Manufacturing,

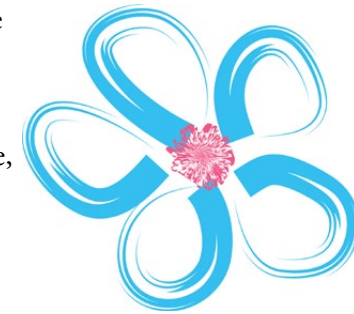
and Marketing and Sales, as my job supported all these functions. By being in IT, I have been able to see how to run a business from all angles. You see, if you work in IT you need to know all about the business that you are supporting. A degree and a role within technology and IT, have been the secret sauce to enjoy learning about all these areas.

What interests you most about your job?

I love the human interaction of my role. Solving people's problems intrigues me,



whether it is understanding how their jobs work and how we can make their jobs most effective, or working with leaders on how technology can disrupt or create a new business model. I get to think about how to make the world or people's jobs a better place, by applying technology to it.



I rarely get a moment just to sit in front of my computer. 99% of my day is spent interacting with people.

If you have a career in IT -and become a mom how do you balance both?

I have two young kids (one 2

years old, the other 6) and I have had a great, flourishing and growing career in IT, which allows me travel to exciting parts of the world. It is because I have a career in IT, that I am able to balance both.

IT has been on the leading edge of working from home or working in virtual and flexible environments.

This has allowed me to take my kids to school and pick them up when I'm home and connect virtually with them when I'm travelling. In the IT industry people are used to working with a team dispersed all over the world, and we know how to work effectively using technology to enable this.



Retail Industry – Mass Merchant



Gale Blank
SVP & CIO
Walmart Canada



What characteristics do you need to be successful in your industry?

My experience shows me there is very much a **yin** and **yang** to be successful in IT. There's the **technical part**, which is very rational and logical. It's about creating outcomes (programming) and processes (implementing a programme). And then there's the other side, the **people part**. And to be really good in IT, you've got to be an unbelievably good people person, and you have to know how to create change.

I spent the beginning of my career not understanding and being frustrated because I didn't appreciate this. I would create these unbelievably great pieces of technology and nobody would want them

Let me tell you a little about myself. I have a passion for technology and a passion for retail. I love people and I enjoy solving problems and making their lives easier. I don't accept people – my children included – who claim they can't do math. There is nothing special about math, other than people have accepted the premise that some people are good at it and some people are bad at it. And I don't accept that. It's a perception thing, a cop out. Math is about logic. It teaches you to think. And whether you go into information technology or not, you should know how to solve problems logically. Math will teach you this.



to think through problems and problem solving. It is also about working with people, motivating people, and getting people to want to adopt new ways of working.

If you have a career in IT and become a mom, how do you balance both?

It's about work/life balance and it's your responsibility to create it. It's nobody else's. I have been working full time since before the first of my three children was born and I'm still working full time



and I would say to myself 'Why? Why isn't anybody interested?'. Well they weren't interested because I hadn't asked them what problems they needed solving; I hadn't shown them exactly how to do it or why it would make their lives better; and because they didn't have time to even talk to me. In stage two of my career, I focused on **change management** and I became a master in it. If you're going to do IT, that is definitely what you need to be successful.

Why is it important to have more women in the IT industry?

To have a successful career, you have to be a great change agent. The characteristics of creating change and working with people tend to be things

that naturally women are better at. If I were to say who had a better leg up in this field, it is women. It is not men. It has been my experience that 10% is technology and 90% is people, and it's understanding how to work with people, that makes things happen. So I think, the lack of women in technology explains some of the challenges we see. Every IT department will tell you about this one: we're not good at doing large projects. And this is because we don't take the 'people' aspect in early enough. It is an 'added on'. Most women will start with people. I know that it seems that it's all about the technology – math and science, but I'm here to tell you that it's about math and science meaning, it's about logic and being able



since all three have left the nest. I was very

conscious about setting up an infrastructure or support system that allowed me to do this. It's really up to you to decide that this is what you're going to do and to make the choices to allow you to do it. Now technology does tend to allow you to be able to be more mobile, because you can talk to people from wherever you happen to be. I find it to be a very woman-friendly career and I have lots of colleagues who will tell you the same thing. My life philosophy is not an 'either' or', it's an 'and'. I think you can have a great family life and a great career.

How does IT affect you personally?

My relationship with IT is a bit odd. By most definitions, I'm a Luddite, which means I don't accept new technology and this is true. I have no interest in gadgets and fancy technologies. We had black dial phones until 1998. Now I am committed to technology that either adds value, takes away some stress, and is really functional, but don't give me any of those silly things. I am a very conscious user of technology, except when it is technology for the kitchen.



I love to cook and if there's an innovation in that field, I'm there.



Retail Industry – Fashion



Robin Nelson
Director IT
Roots Canada Ltd.

What characteristics do you need to be successful in your industry?

There are so many different job roles in IT and each one of them requires different types of characteristics. There are roles for every personality. Personally, I had to be logical, intuitive, persistent, optimistic and hard working. I had to have initiative, a sense of humour, determination, the ability to be a great leader, and the desire to keep learning.

Do you have to learn programming to be in the IT industry?

Absolutely not. Programming is only one role in IT. There are business analysts, systems operators, network administrators, technical support, e-mail administrators,

As a fashion retailer, we have a tremendous amount of information to manage, for example: tracking and managing all the aspects of the products we sell and develop; managing all our warehouses, distribution, stores, financials; learning as much as possible about our customers, their likes and dislikes, geographical differences, and the best ways of marketing to them; and so much more. The better we can manage the information, the better we can serve our customers and at the best prices.

application support, store systems support, database administrators, project managers, and the list goes on. Each one of the above is a specialty field. As a Director of IT who has worked my way up the ranks I have worked in or managed all of the above positions. Some I have done better than others, but I can definitely tell you that I am not and will never be a programmer. My mind doesn't work in the way that a programmer's mind needs to and yet I have had a very successful IT career.

Do you ever feel undervalued by the men in your industry?

In my current position I am not undervalued by men. However, I did not receive the same respect when I first met with male vendors and customers, but I found it humorous to watch the

transition in their faces as I quickly earned their respect due to my knowledge, experience and expectations. When, I first started out in IT, the guys would not include me in their "club". I was an outsider and I had to figure things out on my own, but this only helped me to become the person that I am today. Nothing stands in my way. I am determined and I will get the job done with or without their support. All that said, I do think that things have improved over the last 20 years and there is not that same level of exclusion these days, at least not in my industry.

In my department, I lead 7 women and 7 men. In my opinion, to be well balanced a healthy IT department requires a mix of both men and women.

How much does your job allow you to interact with others?

90% of my job is interacting with others. I do lock myself away on occasion to do budgets and administrative functions, but the majority of my time is spent interacting with many different people: people within the company; managing my team; with outside vendors; and even with individuals in other retail companies. It is

necessary to work with all these individuals to succeed in IT. A clear understanding of the business is obtained through conversation, collaboration, listening and working side by side with people to not only fight fires, but to develop stronger, more reliable processes for business improvement objectives.

Each role in IT is unique. Some roles have minimal interaction and others have maximum interaction. If you are a programmer, database administrator, network administrator you wouldn't have as much interaction as if you were a business analyst, in a hardware or application support role or on a project team. As you move up

the ladder, the interaction increases in your job role.

If you have a career in IT, is any travelling required?

Depending on the industry and job role you are in, will dictate how much travel is required. I know people who implement systems who are travelling non-stop. In my role I could travel more than I do, but it's a personal choice to limit the travel and manage remote situations via audio and visual conference calling. I do travel to vendor conferences 3-4 times per year, and visit our application vendors to work through development needs and definitions, and to do 'touch base' meetings. There are many IT roles that do not require any travel.



Technology Management Consulting Industry



Jodie Wallis
Managing Director
Accenture

How would you define IT?

For me, IT is about using computers and other technology to learn as much as we can using the information that we collect. For example, if a company wants to better understand what its customers want and what they might like to buy, they can use technology to study the information they collected, to reveal a story about their customers. IT allows us to do this quickly and efficiently.

Can you explain IT in your career?

In consulting, we work with companies and governments to help find solutions to their tough challenges. Our client companies want to grow their businesses and better serve their customers. We can use IT to help them achieve these goals.

As the Banking Portfolio Lead, I help banks solve challenges and find opportunities to grow. I have more than 18 years of experience in business consulting and technology systems integration, both in the retail and banking industries. I have seen technology change a lot over my career, and I find it rewarding to be a part of this dynamic and ever-changing industry. When I help clients use IT to serve their customers in new and innovative ways, it impacts Canadians who benefit from these services.



For example, one bank wanted to train their employees so that they could better serve the bank's customers. Training can take a lot of time if done in a classroom with a teacher, so we used technology to create a website that could train thousands of employees at the same time.

What characteristics do you need to be successful in your industry?

To be successful as a consultant, you need to enjoy solving problems and be able to learn new things quickly. Creativity is also important – great new ideas help us find opportunities for our clients to reach their goals.

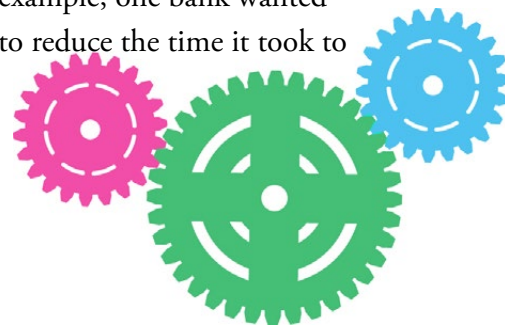
It's important to have strong communication skills and the ability to work well with different types of

people. Developing trusting relationships with our clients is one of the most important things that we do.

What type of problems do you solve?

I work with clients to solve all kinds of problems, but there are some common themes. Most clients want to grow their business and attract new customers. They want to find ways to serve customers better and stand out from their competitors.

Our clients often want to use technology to do things that they already do well, but in new and improved ways. For example, one bank wanted to reduce the time it took to



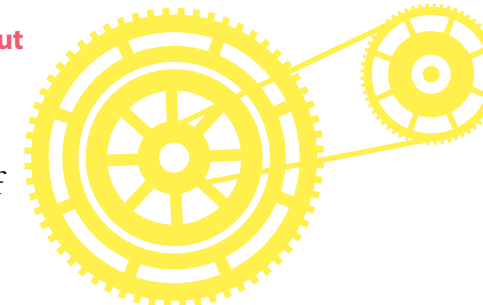
open a new bank account, while another bank wanted to make it quicker and easier to buy a new car.

What interests you most about your job?

What interests me most about my job is the variety of projects that I work on, and the really smart people that I work with. No two projects are the same and in fact no two days are the same. But at the same time, the things I learn



on one project definitely help me grow and develop my skills and make me better for the next project.



How much does your job allow you to interact with others?

My job involves a lot of time interacting with people. I work with dozens of colleagues from my company on project teams, from entry-level staff to senior managing directors. I also interact with people at our client and partner organization. Interacting with lots of different types of people is a big part of what I do.

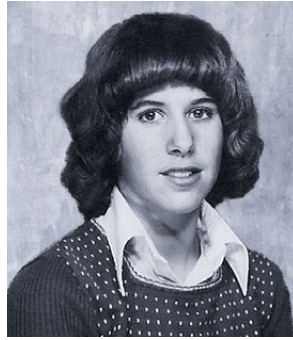


How has IT changed your job over the last 15 years?

Back 15 years ago, I had just received my first work laptop. I had no cell phone, no e-mail as we know it today, no social media and very few websites. Most communication was done in person, over the phone (a land line) and through voice mail. That meant long hours at my desk in the evenings and on weekends in the office.

Today, I can work from anywhere. I connect with colleagues from all over the world easily over the phone and through video conferencing. I can send and receive communications from just about anywhere – from home, from the airport and even from my kids' soccer games.

Information Technology Services Industry



Vanda Vicars
CEO Canada Infrastructure
Capgemini

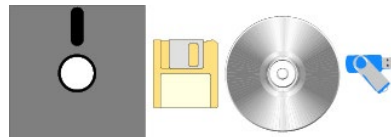
I am passionate about technology. I come from a family that loves technology and gadgets. I didn't think there was a career for me out there until I got to university and actually worked on programming my first computer. And then I got the bug. Back then the PC hadn't hit the house yet, but I loved it because I could solve problems all day long. I am a huge organizer, so the combination of a business and computer science degree was the right choice for me. My whole career has been in that. When I like something, I get passionate about it and I just keep doing it. I am very energetic. People think of the IT world as being a sedentary world, but it's not. You need tons of energy.

How would you define IT?

In my mind, Information Technology is the combination of all the solutions that it takes for companies to operate today. In the IT world, you're either on the *internal* side of a company (you are helping from within) or you're on the *commercial* side (you are offering services to companies and they buy them from you).

In the internal IT department, your mandate is to find, implement, and project manage things that allow the people and the business processes to be as efficient as possible. On the commercial side, you are selling either the re-use of services or you are taking over the company's complete IT infrastructure – running and developing it for them. You're

not doing it from inside the company, you're doing it as a service for that company.



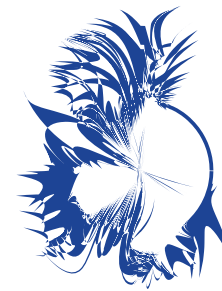
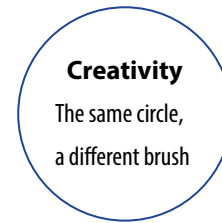
What non-computer or math courses could be valuable in the industry?

To me, business courses are the first thing you should look at, because understanding business is very important whether you are working for a corporation or working for your own entrepreneurial company. You need to understand accounting, marketing, business policy, business organizational behavior... They are all different courses. Psychology is also a great way to get some rounding on the math and sciences, as are creative

courses like creative design, digital media courses, and communications courses. All these are very valuable to an IT professional.

What process or steps did you take to get to your current position?

I started as a computer/systems programmer and went on to product development and developed – you'll laugh – e-mail systems so within the company we could send e-mails to each other. This was before the internet – in the pioneer days. From there I went into management, and at IBM, I went into sales and marketing – building large computer systems for clients – and to executive leadership where I ran a large technical support organization for IBM.



Next I moved to Bell Canada where I ran a large commercial IT services company. All this experience gave me the background to head up the infrastructure services provided to our clients.

If you have a career in IT, is any travelling required?

Over the 30 years of my career, I haven't spent the whole time travelling, but I was always open to travel. It added a lot. When you travel to see your clients, you can see their work environment, their work culture, and see



who they are, and whether or not you are proposing things that make sense or no sense to them. When you lead large organizations where you have 1000's of people reporting to you, you need to travel to where the people are. You need to see how are they doing, how are they progressing, and what are their work conditions. You can't feel that from within your office. You have to interact with people and the best way to interact is to be there in person.

Why is it important to have more women in the IT industry?

I'm very passionate about having more women in the industry. I think that we bring very different views to problem solving. The IT world is about solving problems



for other people and making things better for them. I think you need different views. In order to solve problems you need diverse teams. You need women, men, different cultures, people with all kinds of different talents. Women bring a lot to the table because of their relationship skills and their problem solving skills. For the last 15 years I have been involved in trying to bring more and more girls into IT. I think you're going to like this industry. It's got a lot of aspects to it. You can find a place where you will fit.



Health Care Industry



Fariba Anderson
Chief Executive Officer
AcuteNet Inc.

Math saved my life. 3 weeks after my 18th birthday in January 1980, I came to Canada from Iran. I arrived by myself with no English and knowing no one. Strangers helped me and I got settled in. I studied English at Humber College and then because my high school transcript had so many math courses, I got myself into York University. There was nothing in Math that I really loved. It was just something I had to do, but it led to my computer science degree from York University and my career in IT. Math enabled me to develop critical thinking and to be able to solve problems. And it really is the skill set that helped save my life and allowed me the privileges I have today.

What process or steps did you take to get to your current position?

My first job (1984) was developing tax applications on a computer system known as Commodore 64 – that’s 64K memory for the entire computer. This was a start-up and the owner really didn’t have very much money. I worked there for 6 months, developed a lot of applications and never got paid, but I was now able to put something on my résumé. That led me into getting my first paying job in the field of computers at the University of Calgary. Here I developed a skill that led to all my subsequent positions. Technology has so much power because it brings so many solutions, but we have

to understand what it is that people are asking us to do.

A lot of people can’t explain their problems, so because of my lack of English, I had to be really attentive, learn to read body language, and be able to pick up stress points people were having with certain issues. This is what really differentiated me. I was able to solve problems they weren’t asking me to solve. It was like an extra service I was providing. My success in IT has nothing to do with being a good programmer, because frankly I was not that great a programmer. What I was really good at, was understanding the problem and attending to the problem they truly were having, verses what they were telling me.

How does IT affect you personally?

I love to solve problems and IT is all about solving problems. There are so many fields in IT, but all of them have one thing in common and that’s problem solving. For example, today we have people in the developing nations that hardly have a roof over their heads, have no access to running water or any kind of medicine, but they have a phone. And on that phone they have an application where they can have a bank account and they can get micro loans. Through that technology, they are able to be self-reliant because they can start a business. That is the power of technology. It can truly transform lives.

Would men look down upon you because you’re a woman?

I come from Iran and in Iran women are not viewed at as being equal. Pretty much in the Muslim countries, women do not get the same equal opportunities as men do. In Canada, I have not come across a man who put me down because of my gender. Have I had situations that I haven’t been treated fairly and equitably? Yes, but not because of my gender. It always had to do with the situation. Did I

do my job as it was expected of me? Was I producing? I really don’t believe that gender matters, or for that matter sexual orientation, or skin colour. What matters is what I bring to people around me every day. Do I bring a positive energy? Do I solve problems? Am I someone who brings my best and most to work and to life every day?

How do you think IT will develop over the next couple of decades?

When I was a teenager, the extent of technology I had, was a cassette with really cool ear phones. 30 years later, the technology you have access to, is remarkable and you don’t even think about it. In the next 10-20 years, technology

is going to provide an ability to solve even bigger and more wicked problems. I hope you girls today develop your mathematical skills and your critical thinking skills, so you can solve the new challenges. You don’t have to love math. I didn’t, but it has a utility to offer. When you solve those complicated algebra equations, your brain learns how to solve abstract problems. When you have that skill, it stays with you. It enables you to solve problems. Picture yourself 20 years from now somewhere successful. That place of success only comes if you have been able to solve the problems that life is going to throw at you. That’s the beauty of math and I’m proof of that.



Computing Technology Industry



Elaine Mah
Director
Intel of Canada Ltd.

I have been working for Intel for just over 7 years now and came up to head Intel Canada through the marketing department. I graduated from University with a Business Degree and a Marketing specialization. Did I take computer courses? Yes, but not with the thought of being part of the computer industry. I needed to learn how to use a computer, to finish essays and submit projects on time. Then computers were very new for everyone – personal and business. So to find myself working in IT was a bit of a surprise to me, but it’s an amazing industry to be in, whether you want to be a computer engineer or a marketer.



How does making movies involve IT?

Every movie that is out on the screen today involves IT. Movies you wouldn’t think of – those without special effects – all use technology. Today a lot of movies are using HD video cameras, then saved as a digital file and finished on computers. You can be a one person movie studio because of IT. And that makes things very powerful for individuals. The fact is, that computers and technology have unlocked the doors to so many different opportunities. Before you had to be a big business with a lot of money to get



started. Today, you can be one person with a really cool idea and a computer and you’re in business. *And that’s amazing.*



How much does your job allow you to interact with others?

There are days when I have nothing but meetings and I don’t have a moment to myself. Being in an IT industry actually changes how I interact with others and I think that’s the big difference. My company has offices all around the world, so I’m dealing with a lot of people in a lot of different countries and 90% of the people I work with regularly, I will never meet in person. It’s actually quite amazing what technology has

allowed in terms of establishing a relationship with someone you’ll never shake hands with. It’s as easy as doing face time on your iPad. You take that for granted. For us who have been working a lot of years, it’s still a little bit like magic.

Working in a male dominated industry how does it feel to be a high ranking executive?

It can be intimidating when you are learning to understand your new role and what you hope to bring to the discussion. It’s always difficult to speak out for the first time no matter how high your title says you are, or if it’s your first day in your first job. The fact is, what makes you important to your job are your ideas and your questions. Often projects change direction because one person

asked a single question. You can’t contribute if you don’t have all the details, so ask, and you’ll often find that other people had the same question.

If you have a career in IT, is any travelling required?

I work with people I may never meet in person. If I want to travel and budgets will allow, I have that choice. So if I feel that’s it’s important to sit across the table from someone and

look them in the eye and have an important conversation, then I will make that trip. The glamour of business travel for me faded a long time ago. So if I don’t have to travel, I won’t. And again technology has been a real enabler in letting me make that choice. I can still look somebody in the eye and see their body language, by making a video call. And that way we can have that interaction.

Who influences the types of games that are produced and why do they tend to be very violent and sexist?

The gaming industry like any entertainment industry is dictated by dollars and the games that make more money are the games that get produced. Historically, a lot of



those games have been the first person shooter because there were more men buying games than women. And we’re all ruled by profit in this industry. Today there are more and more women and girls that are into doing gaming and the industry is starting to recognize that. A good example is the success of the game The Sims, which is about role playing – developing character and relationships. Role playing games are making money. I think you will see those influences as more and more women come in to the gaming industry.



Information Technology Law



Parna Sabet-Stephenson
Partner
Blake, Cassels & Graydon LLP

Lawyers often laugh and say that they went into law because they were not good at math, but let me tell you that the best lawyers are great at math. And you can tell, because they are the best and most creative problem solvers. I practise IT law in one of Canada's largest law firms and am fortunate to work with some very bright legal minds. My clients range from major banks to Canadian and international companies and I help them with their technology law needs. I love what I am doing and meet some fascinating people as a result of it, and although I spend my days solving problems, I am having fun while doing it.



How much does your job allow you to interact with others?

I often work in teams with my colleagues and I also work closely with my clients and their teams. When I negotiate deals for my clients, I also have to work with the company that my client is negotiating with, which means working with their lawyers and business teams as well. One of the largest files that I ever worked on involved a team of nearly 100 lawyers at my law firm and 200 individuals on our client's team!



What interests you most about your job?

I love helping my clients. They are usually trying to incorporate technology into their businesses or make their technology available to others. I also help companies launch their e-commerce sites and make their products and services available through the Internet. I work closely with them and get to know their business needs intimately. At the end of the day, they count on me to protect their interests.

What inspired you to work in your current job?

When I graduated from law school, law makers were just starting to come up with new laws to deal with electronic



commerce. That's how I noticed this field and once I looked into it, I discovered a fascinating area of law. At the time, I had never heard of IT law, but since then, most law schools offer many classes in IT law. I started working in this area as a student in my current law firm and never looked back.

What process or steps did you take to get to your current position?

In order to go to law school, you usually need to do another degree first. Law school is then 3 years, and once you graduate, you work as a student in a law firm while training to become a lawyer. You also have to write some exams. When you start working as a lawyer,

you specialize in your chosen field based on your experience. That's how I became an IT lawyer. It's a long process but it is well worth it!



What characteristics do you need to be successful in your industry?

You need to be intelligent, hardworking and driven.



You have to enjoy interacting with people and working in teams. You must like getting to know your clients' needs and being creative in solving their problems. Good communication skills, both written and oral, are very important too. And of course, it helps to be passionate in what you do.

Is it difficult to work in an industry mostly dominated by men? Why or why not?

IT may be a male dominated field but law is not. Roughly 40% of lawyers in Ontario are women and other provinces likely have similar proportions of female lawyers. These days, there are more women than men graduating from law school and the numbers are



increasing.

As an IT lawyer, I work with IT professionals and they are currently mostly men. They have always been respectful of what I do and we make great teams. Being a woman has no impact on the work I do and how I represent my clients. The IT field is changing though and more and more women are entering the field.

Fashion Technology Industry



Tanya Shaw
President & CEO
Unique Solutions Design LTD.

As a former designer and custom pattern maker, I found that many women were tying a portion of their self-esteem to the size on the tag. Throughout my career, I have worked to show people that they should focus on clothing that fits well and makes them feel good. Because all our bodies are different and clothing sizing is not at all consistent, just trying to find clothing that fits can become a frustrating and time consuming shopping experience. I set out to create a solution and with a lot of hard work, I did – a size-matching service that will match us with the stores that carry the clothes that best fit our unique shapes.

Could you give us a brief description of a typical day in your job?

A typical day for me can be spent in my Dartmouth, NS office or travelling for meetings across North America and abroad. Working with a corporate staff of nearly 60, including a team of executives, I work to grow my business. Each day, we work to support and develop new projects. As a fashion technology company, there are many uses for the technology we have created and the possibilities are endless. As a result, I spend a lot of time learning about other types of technology and determining their impact. There are many ways to integrate the technology my company uses with other types of innovations. I frequently



meet with other businesses focused on areas such as social media, digital media or other types of information technology to explore how our companies might work together.

Why is it important to have more women in IT?

Leading a fashion technology company, I see a lot of value in having more women in

the IT industry. Women are major consumers of IT products and services, and often use these products and services in different ways than men. Women can face unique challenges in their lives, and therefore need unique types of technology to address these problems.

I believe that women often approach their problems differently than men. Having a woman's voice in business can bring a new perspective into the technology field. Because of this, I think it is important to have a combination of women and men making decisions in the IT industry.

What interests you most about your job?

Throughout my career, I have been able to watch the IT

industry grow significantly. This is a very exciting time for the IT industry, and I am proud to be a part of it. Working with international leaders in the IT and business world, I see a lot of new, innovative technology. I get to see the future unfolding and it is very exciting.

As technology is developing quickly, each day brings new, diverse prospects for my company. I am excited that



I get to dream about new possibilities, and to be a part of making them a reality.

Why did you choose to work in IT?

I choose IT for a number of reasons, but to some degree I evolved into it gradually. My original training was in business, apparel and fashion design. Unique Solutions started as custom pattern making – a wardrobe planning business.

As I saw advances in technology (especially with the internet), I began to look at how IT could play a role in my career path.

Early in my career was when companies like Amazon first started. I was very intrigued with what they were doing. I



was also fascinated with how technology could revolutionize other industries. From there, I started to work on how I could take my knowledge of business and fashion and build that into a fashion technology company. I worked to see if my company could disrupt the fashion industry the way Amazon did for books and electronics.



Consumer Product Manufacturing Industry



Madeleyne Vivanco
CIO
Procter & Gamble Canada Inc.

Do you think being in IT means that you are going to be lonely sitting in a room with a bunch of computers and cables? That's definitely not the case. And do you think it's all about programming? No, it's a basic that I studied and I really did not like it, but as I started going to the different courses, I found so many aspects of IT that I really loved. IT is in every industry. It's everywhere. It is an area that can be as exciting as you want it to be. You can dive into so many different industries and professions. I have learned about manufacturing, marketing, sales, finance... and I can understand how information technology and I can make a difference in each.

How much does your job allow you to interact with others?

To do my job effectively, I have to talk to all of the people because IT is in every single area of the company. I need to understand what they're all doing, so I can make things better for them. The more people I can actually speak with and the more connections I can make, the



better the solutions. In IT your job is actually understanding what everyone is doing and creating the technology connections to make a relevant difference.

How does your business incorporate IT?

We incorporate IT in every single part of our business: from how we manufacture our products;

to how we distribute them around the world; to how we display the products on the store shelves; to how we market them to the consumers (including Social Media like Facebook); to how we listen to the consumer's wants and needs to improve and create new products; and more, so much more.

Why did you choose to work in IT?

I had no clue what I wanted to do. I was thinking of being a Paleontologist, or a Civil Engineer like my Dad, or a Surgeon, but then I thought of robotics and artificial intelligence, all the newest and different things. I had no idea what my job would look like, I only knew that there was a new thing coming and I just dove in. And just like any



career, when studying for it, there were courses I liked and others I didn't, but they gave me the foundation and the skills I needed to prepare me for the workplace. And I don't regret it. IT has allowed me to be in a unique position to learn a lot about all the different arms of a global business and to make a real impact.

Is it difficult to work in an industry mostly dominated by men? Why or why not?

In the beginning the males were the providers and the women were the child bearers and nurturers. Today we have recognized that women are more than capable, and also that they use their brains differently. Industries are looking for that 'female'



way of addressing or solving problems and that 'different' way of addressing situations – 'So really, working in a male dominated industry is only as challenging as you *think* it is.' Girls are as capable and as self-confident as anyone. When studying, does it mean that the men studied more than the women? I don't think so. Then what makes you think that men would be better prepared to do a job than women would? You start by believing in yourself



and not doubting your ability. If you do, it will show and then it will be challenged. So you have to rock on and really address it with a lot of energy and with self-confidence.

If you have a career in IT and become a mom, how do you balance both?

The reason I chose not to be a Surgeon was because in my mind, I pictured myself working weekdays, weekends, nights and covering shifts, and I couldn't see myself having the kind of life needed to raise a family with those kind of hours. So I thought I had to do something different. Honestly, an IT career is no different from any other career in terms of being a Mom. The key question is, how do

you make raising a family and being a Mom with a career (another important part of you) work? And I think the answer is setting up your priorities – what you chose to do at a given point in time. And whatever you do, don't try to be a 'Super Mom'. You will go insane. Think about the things that make you the happiest and choose the things where you believe you are the best one equipped to do the job. And then make your choices and be happy with them. Do not penalize yourself and feel guilty. Your career is a long journey. You will not get to the top after a year on the job. At different points in your life, you will make the right/best choices.



Digital Media and Services Industry



Lynda Brown-Ganzert
Founder & CEO
zuluMe

As I look back on the last 40 years, there are spotlight moments that, when combined, were trying to show me the way to my present career. Winning a calculator at the school fair in Grade 4, winning a prize at the Grade 8 science fair for "How Computers Work" and acing Entrepreneurship 12 while I struggled along in Physics 11. All of these were signs that my interests lay in entrepreneurial digital media ventures, long before there was even a digital media industry. Today, I leverage these personal passions to develop new ways of using technologies to connect people. As the Founder of zuluMe, I'm deeply involved in building mobile networks that help people connect.



Is IT all computer focused?

I work in what's called digital media, an ever-changing field that combines both content and technology and for example have worked with video game teams, web design teams, and mobile app development teams. What I love about digital media is that I can fulfill my geek side and my huge interest in technology, while also using my strengths in communications, marketing, design and business development. I don't know exactly how to code the products I build, but I do know the process and how to create products, services and apps that use IT to engage an audience, or promote a brand or tell a story. It's a really perfect blend between art and technology



without being totally computer focused. That said, I think it's really important to learn how to code, even just the basics, not only so you understand how it works, but because it can be really fun too!

Could you give us a brief description of a typical day in your job?

There really is no typical day in a digital media job because you're always learning, changing and keeping up with changing technology and what people around the world are doing with their smart phones, computers, tablets... . Imagine when the Apple watch comes out or you can snag a pair of Google Glass(es). Developments like these make digital media an exciting

place to be because you get to create new experiences on new platforms that are unique and sometimes very revolutionary.

I start the day by reading the industry news – what's new, what deals have been made and what new startups have popped up. Next I tackle my e-mail and any urgent matters that need my attention. Then I start in on my morning meetings – client pitches, team meetings, creative sessions, or strategic planning exercises. Lunch is usually in front of my computer or at a lunch meeting. In the early afternoon, the meetings continue, but I try to do any writing and creative development I have – it's when I seem to write and

think best. The rest of the day brings more meetings, many on Skype or teleconference. I have a young family so dinner time is important. Networking or industry events have been reduced to 1-2 outings a week, so I can tuck my little ones into bed. Evenings are sometimes in front of my computer catching up or spending time on my social networks.

Why is it important to have more women in the IT industry?



IT impacts everything we do – from healthcare to entertainment. Do you really want to miss out on shaping the future? It's important to have more women in IT so they can be the next generation of entrepreneurs, pioneers and visionaries. In my industry, digital media products and services are generally developed for a global audience, which is why multicultural teams tend to make better, more diverse and relevant products. It's the same thing with women. If we want products/software/apps to be reflective and inclusive of women, then we need more women not only on the development teams, but also at the Boardroom tables.

Personally, I've already decided that if I were ever to go into the IT industry, I would pick a career over family life and my question to you is basically, "Are you able to have the best of both?"

Your career will hopefully be something that you nurture over a lifetime. The same can be said with having a family, but it's more limited, say 20 years of having young kids versus 40 years of career. I would encourage you to take the long view. Rather than striving to have the best of both, which can sometimes be impossible, think about each day as a circle and define what you want to have in that circle to live a happy, healthy and meaningful life.



Energy/Utilities Industry



Shelley Lineham
Head of Solutions
Direct Energy

Is IT all computer focused?

Technology is used throughout every aspect of our lives and businesses and is only a tool to enable us and that's true whether or not you work in IT. In IT, you can work directly with computers as a programmer or you can work directly with customers or end users. You can have a non-technical role all together like a project manager, who works with technical people to accomplish her goals, but not necessarily with technology itself. You can also analyze data to use the information to solve problems or predict trends. Your job options in IT are truly unlimited.

What types of problems do you solve?

There are all types of problems

My job is to solve problems and to help companies grow, and that can mean using technology or finding new and creative ways of looking at things. My career in IT has allowed me to constantly learn new things. It has given me the opportunity to travel the world, meet new and interesting people and learn about all areas of businesses in different industries. I have worked on projects that taught me about cars, insects, art, banking, movies and music, energy, and trading. On one cool project I created a "movies and music" portal. It was so much fun and very rewarding to see that years later, it is still in use by millions of people every day. One thing is for sure – a career in IT is never boring.

to solve in any company. It could be figuring out how to give customers better service; making processes more efficient; finding a way to do the same thing, or even more, for less money. There are mergers and acquisitions, where you need to figure out how to bring two companies together; and sometimes there is too **much** technology and the cost is too high and you need to figure out how to take technology out without harming the business.

What inspired you to work in your current job?

I always liked math and found it easy. At University, I

pursued a Business degree with a major in Accounting where I took courses I found easy and enjoyed, like math. This led to taking an Introduction to Computers course and from that moment I was hooked. I found myself loving programming and problem solving and when I was finished my Business degree, I continued part time to get my Computer Science degree. There was nothing more exciting to me than getting a program to work properly. I remember the first time I wrote an animation application – it was just a little guy that waved. When I first got it done, his wave jerked, but I kept working on it until he had a nice smooth wave and that was the moment I knew technology was my passion.

Why is it important to have more women in the IT industry?

Diversity is important in every industry. It's about bringing people together who have different experiences and think differently to bring the widest views to get to the best possible result. In IT especially, diversity of thinking is key to success. It's only by having people who think differently working together that you get



to the best possible solution to any problem. There is a real kinship with women in IT and we strive to help each other achieve success.

If you have a career in IT and become a mom, how do you balance both?

You have to have a strong support network that you can draw upon when needed both at home and at work. Many families balance both career and parenthood. IT is unique in that it is easier to work remotely due to the high component of technology in the job, and a career in IT can often afford more

flexibility in terms of work location and hours. Many IT professionals these days are able to work from home and/or have flexible hours. I have a young son and working in IT has allowed me the flexibility in my work life to enable the work/life balance I wanted.

If you have a career in IT, is any traveling required?

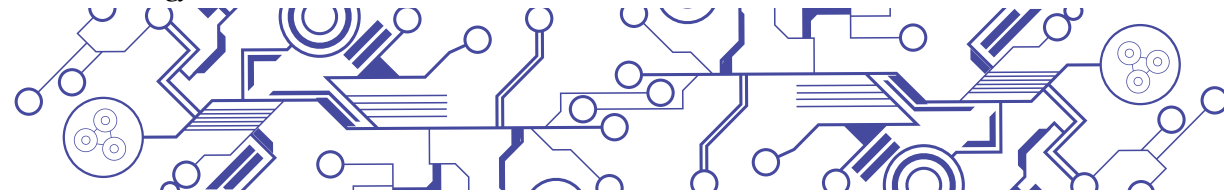
If you do want to travel, there are many career options in IT that will allow you to do so. For many years I was able to travel all over the world and spend time in many different cities and countries. At the same time, with all of the video conferencing equipment available these days, working remotely is very effective.

Financial Services Industry



Judy Dinn
VP Payments (ABMs) & Credit
Card Technology, RBC

When I was your age, I didn't know what I wanted to be. I didn't know what careers were available to me. I did know what I was good at. I did know that I didn't want to close any doors (and I'm still like that), so in school I took all the advanced level courses, because they gave me choices. I knew I wanted a career and I wanted to be able to provide for myself, so I needed to pick a profession that could give me that. And most importantly, I wanted a career that would last my life time – an industry that would be around for 40-50 years. Technology matched my skills and interests and it was still new. Bottom line, I knew technology opened doors, provided flexibility and longevity.



How would you define IT?

Technology is divided into two major components – software and hardware (also called infrastructure) If it has a plug, it is on the infrastructure/hardware side. In my purist definition of technology, you use the software and the hardware to solve business problems. Within infrastructure you have many career options – working on the physical boxes (servers and computers) or with the networks or phones (telecommunications), or in security and fraud, or on databases. On the application/software side you are a developer (coder/programmer), a tester, a business analyst

(collect requirements) or a project manager. And all these roles exist and are required in every industry. Hence, we are all users of technology.

What type of problems do you solve?

I solve four different types of problems. The 1st and most important, are **business problems**, e.g. how to get more customers. The 2nd type are **financial problems**, e.g. how to generate more revenue and on the flip side how to save money. The 3rd kind are **human problems**, e.g. how to help employees develop and grow in their careers, and to do better at what they do. A very large part of my job

is just managing the human element in technology. And 4th one, the most obvious, is to solve **technical problems**, e.g. finding the best type of software and hardware to buy – in other words, finding the right technology solution that performs what the business needs.

What interests you most about your job?

I look at technology as a 'foundational skill set' meaning you can translate it to any industry that you like. If you like communications, fashion, energy, forestry, diamond mining..., go for it. Every industry in the world has a technology department. If



you are predisposed to enjoy technology – you like problem solving, you're good at math, you enjoy putting things together – and you want to do that in a particular industry, it's a great career to have. So you can get into math during high school and university, take the technology disciplines and go after the industry that you're most interested in. And when the time comes that you want to try something different, you can, because it is a very transferable skill. You can go from banking to publishing, or fashion to communications. And that's what makes this career so interesting – its flexibility.



Why is it important to have more women in the IT industry?

The reason why it is great to have women in technology, is the same reason it is great to have women in any industry. Women think differently, solve problems differently, and the greater the brain pool, the more variety in the answers. Technology is suffering because of the lack of women giving their perspective, their approach and their answers. We don't have the best solutions coming forward because of the lack of women in our field.

What would be the monthly salary of an average woman working in IT?

There are many variables determining your salary: what

side of technology, software or hardware; the industry; the size of the company; if it's a not-for-profit; and the role. Each position has a very different salary band. Based on my experience, fresh out of school and at the bottom of the band, you could expect \$45,000 to \$65,000 per year. Promotions mean a different band. Typically management positions make more money. But management does not code software or play with the plug devices any more. Management manages people and checks the employees' work. The average for a mid to upper management role can be from \$80,000 - \$100,000. Once in the executive ranks, you can make from \$150,000 to greater than \$500,000.



Directory

Now that we have piqued your curiosity, we have tried to find some online sites that should help you and increase your interest.

Mathematics – are you finding it challenging or do you want to be challenged? Math is the only subject you can get 100% (or more with bonus questions) every time you write a test. If you are having a problem then somewhere along the line you have missed a step or two. *Everything in Math is based on previous knowledge.* Math is like a building-block tower. If you miss some blocks and keep building the tower, the tower will soon collapse. Find out which blocks you are missing and you will find clarity. When I taught Math to students your age, I started each year with the basics and made sure everyone understood and practised **all** the steps – none of this “I can do it in my head.”. Each year, some new students came in with marks under 10%, but many finished the year with marks between 90 and 110%(bonus questions). They found the missing blocks. *Math teaches you to think. It is logical, it's accurate and it's step by step. You can count on it. It is not guessing.*

Easy. You can solve it in your head.

Not so easy, unless you understand how

$$3x = 15$$

$$x = 5$$

$$53x = 144531$$

$$x = ?$$

One of the greatest websites for self learning is **KHAN ACADEMY** (www.khanacademy.org) It is amazing and you will surprise yourself at what you will learn and really enjoy doing it, and not just in math, but also in computer science and so much more.



Lally Rementilla, in her message mentioned a website she and a colleague created to help women in business relate better with their male colleagues. They believe that sports knowledge is important for girls to gain confidence and to interact better with boys. The Gal's Got Game (www.thegalsgotgame.com) is an online resource for girls/women who want to talk sports, but don't have time to read the sports section or watch the games. Through the website and an e-mail newsletter, they deliver easy to read and understand, articles about the top sports stories, personalities and key sporting events of the day, with a dose of humour in order to give their readers *just enough sports*.



Genevieve Vanderveldt L'Esperance is Gen of Gen Inc. TV and at 20 years old, she has accomplished so much. She is attending McGill University, is a coder, a speaker, an entrepreneur and more, and she wants you to know that you can do it too. You must visit this YouTube site (www.youtube.com/user/geninctv) to see the videos she produced and edited focused on teaching and exciting girls like you about IT and even about programming. Follow her experiences and her interviews. On the site is a video that teaches you to create apps and one that features James Cameron. Gen has interned at Microsoft and spoken at Microsoft conferences.

And guess what? It was her mother who set her on this path and she wants to help you get as excited about Information Technology as she is.

The CENTRE for EDUCATION in MATHEMATICS and COMPUTING – University of Waterloo

<https://www.cemc.uwaterloo.ca/>

This website has so many interesting areas for students of all ages. They have math and computing contests, **free** online problems, lessons and games. Check out the [Web Resources](#) tab for this chart.

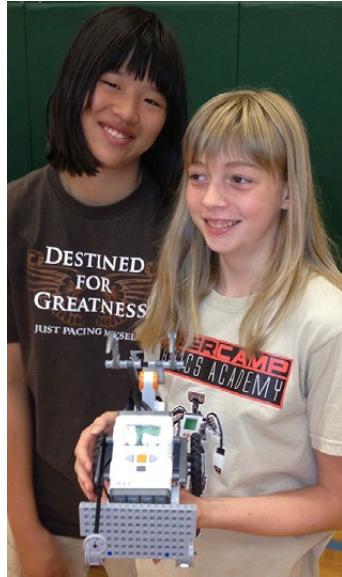
Hover over a row for a brief description of a resource and click on the row to begin exploring.

	Grades 4-6	Grades 7-9	Grades 9-12	Teachers / Parents	Students	Problems / Exercises	Lessons / Presentations	Games	Enrichment-Focused
mathFROG	•		•	•	•	•		•	
Emmy Noether Circles	•		•	•	•	•			•
Invitations to Math	•		•	•	•	•			
Problems '4' the Web	•		•	•	•	•			•
Wired Math		•	•	•	•	•	•	•	•
Math Circles	•	•	•		•	•	•		•
Problem of the Week	•	•	•	•	•	•			•
MathSwap		•	•			•			
CEMC on Facebook		•	•	•	•				•
PCF eWorkshop		•	•	•	•				•
Euclid eWorkshop		•	•	•	•				•
Past Contests		•	•	•	•				•

Teachers: download this poster.



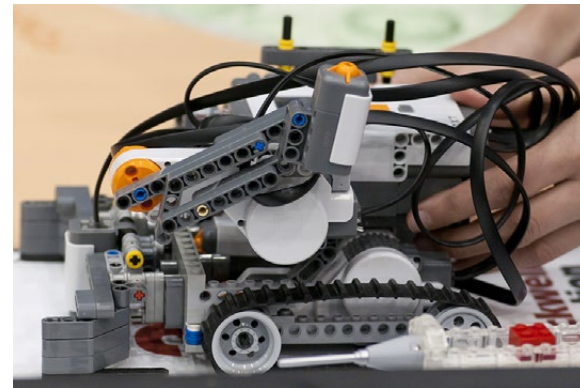
Directory



Cybercamp Robotics Academy is a new summer day camp run by Ontario-certified teachers with many years of experience in LEGO robotics. The focus of the camp is to engage children aged 9-14 in a hands-on experience with LEGO robotics using the LEGO NXT Mindstorms Robot and programming software. Each week gives the campers a new theme within which to hone their building and programming skills. Combine the technical fun with outdoor games, team-based challenges, a trip to the local splash pad and a few pizza lunches and you have the perfect mix for a week full of fun and learning! Be engaged, be challenged, meet some new friends, and have fun! You can find us in two great locations – Stouffville and Toronto! For more information and to register, please visit our website at www.cybercamp.ca or contact info@cybercamp.ca



FIRST LEGO League: *FIRST* is an acronym that stands for “For Inspiration and Recognition of Science and Technology”. *FIRST* LEGO League is a non-profit organization whose mission is to inspire children to think that Science, Technology, Engineering, and Math are exciting and fun. A largely volunteer-run program in over 160 countries world-wide, *FIRST* LEGO League touches the lives of over 200,000 students across the globe. Each fall a different theme/game is released and teams have 8-12 weeks to attack the challenge, build and program a robot to do various tasks in a 2½ minute competition, and prepare



a 5 minute presentation on their research project. Teams accomplish all of this while keeping *FIRST*'s “Core Values” at the forefront of their experience. The culminating event for the season is an FLL tournament where teams from a given region come together to compete in friendly tournament celebrating everyone’s successes. For more information, please visit www.firstlegoleague.org or e-mail david.ellis@firstroboticscanada.org



StepStones *StepStones for Youth* is a registered charitable organization, developed in 2004 in response to the critical need for preventive intervention programs for vulnerable youth in the Greater Toronto Area. Our mission is to provide an ongoing support network for youth who have experienced domestic violence, childhood abuse, financial instability and/or lack of consistent care. StepStones offers innovative skill-based programming (literacy, communication, computer technology, executive functioning and artistic expression) designed to foster personal and social development, leadership, life skills and resilience in young people. StepStones offers support for at-risk youth through our Life Skills Focused Summer Camp (for girls aged 6-14), our City Arts and Mentoring Camp (for youth aged 8-16), and our SPIRIT Mentoring and Community Bridges Program (for youth exiting Ontario’s foster care system). For information about our programmes visit www.stepstonesforyouth.com or contact info@stepstonesforyouth.com.



CAGIS is a fun science club for girls aged 7-16 with the mission to encourage interest in Science, Technology, Engineering and Mathematics (STEM). We have several chapters across Canada, and chapter members meet at the workplaces of women and men in STEM related fields on a regular basis to get a “behind the scenes” view of science and technology in action, and do fun, hands-on activities. For more information, visit www.cagis.ca or e-mail cagis@uwo.ca.



Girls Learning Code is less about “code” and more about changing the world – through teamwork, creativity, and, of course, technology. At the camps and workshops, Toronto’s most creative 9-13 year old girls join to participate in Toronto's only all-girls technology camp and workshops. This programme experience is designed to help girls see technology in a whole new light – as a medium for self-expression, and as a means for changing the world. The programme objectives are to help girls: discover a passion for learning about technology; experience the satisfaction that comes from being a builder – not just consumer – of the web and technology; become more confident and self-assured; develop a willingness to try new things; and increase their knowledge of technology-related careers To learn more visit: <https://girlslearningcode.com/>

Directory



Science ALIVE endeavours to make science, engineering, and technology interactive, fun, and hands-on. To promote gender equity, and provide a safe, fun, and comfortable environment for female youth, Science ALIVE proudly runs a year round, bi-weekly all girls club, ALIVE Girls. In ALIVE Girls, participants will encounter a variety of topics, spanning from computer science to chemistry, with female instructors and mentors. Each club meeting is 3 hours long, and includes exciting demos, and interactive activities. Similarly, we also offer two separate weeks of all-girls summer camp, Nebula Girls, at Simon Fraser University (SFU Burnaby). For those who love technology, we also offer a co-ed Tech Camp, that focuses more heavily on technology based sciences. Love building robots?

Then come join our co-ed FAS tech camp, and spend the week building and programming Lego NXT robots. Science ALIVE is a proud member of Actua, a national organization with 33 members across Canada, so if you are not based in BC, check out an Actua camp, or any of Actua's members, at www.actua.ca, or come join Science ALIVE at www.sciencealive.ca



Try/CATCH (Computing and Technology Conference for Her) is an exciting outreach project organized by the Women in Computing Science (WICS) at Simon Fraser University. It is a one-day event for high school girls from grades eight to twelve, with a major objective of helping girls develop an interest in computing science and the field of technology. Students network with mentors and learn about working in a technology field. They will join a activities developing skills in areas such as programming, robotics and other computing-related aspects. Visit the **Try/CATCH** website to learn more <https://trycatch.cmpt.sfu.ca/>



Girls Who Code is an American organization whose mission is to educate, inspire, and equip young women with the skills and resources to pursue academic and career opportunities in computing fields. Much of the information on the website (<https://www.girlswhocode.com/>) can apply to the girls in Canada and can help in exciting you about this exciting career. Learning about Reshma Saugani, the founder of Girls Who Code is inspirational. You must watch the video she made about the importance of having women in technology. <https://www.youtube.com/watch?v=ltoLOeE7K4A> Again the numbers she mentions are American, but proportionately they match Canadian numbers. -

Girlworks <https://girlworks.ca/> is a "magazine for smart girls" – that's all of you – which in addition to the magazine has great links to so many areas of interest. Don't miss the homework tab linking you to help in such areas as: math; history & culture; geography; english literature; art & design; fashion & style. Below are some of the math links.

General Math:

<https://math.usask.ca/emr/menu.html>

(University of Saskatchewan site to help high school students prepare for university level math. Exercises in math readiness.)

Ask Dr. Math questions: <https://www.mathforum.com/students/>

Aplusmath: math worksheets. <https://www.aplusmath.com/Worksheets/index.html>

Webmath: <https://webmath.com>

Math.com: <https://math.com>

Math Central: <https://mathcentral.uregina.ca/>

(Available in English or French from the University of Regina)



Algebra:

Purplemath: <https://www.purplemath.com/>

(The primary developer of Purplemath and the author of its lessons is Elizabeth Stapel. Though she now has a master's degree in mathematics, she never would have believed while growing up that she would one day be a math teacher.)

Math.com: <https://www.math.com/homeworkhelp/Algebra.html>

(Make use of the many tools and calculators on this site.)

Allgebrahelp: <https://www.algebrahelp.com/>

Algebrahelp.com is a collection of lessons, calculators, and worksheets created to assist students and teachers of algebra.

Coolmath: <https://www.coolmath.com/algebra/> (From the website: Coolmath was designed for the frustrated, the confused, the bored students of the world who hate math.)

Myalgebra: https://www.myalgebra.com/algebra_solver.aspx (Provides the answers to your questions, but does not explain how. This is a good site if you just need to check your work.)



Geometry:

Math.com: <https://www.math.com/homeworkhelp/Geometry.html> (Topics include geometry building blocks, relations and sizes, polygons, and three-dimensional figures.)

Webmath.com: <https://www.webmath.com/index5.html>

Yahoo homework: https://education.yahoo.com/homework_help/math_help/geometry



Graphs:

Kids Zone: Create a graph. <https://nces.ed.gov/nceskids/createagraph/default.aspx>

Directory

Girls Inc. inspires all girls to be strong, smart, and boldSM through life-changing programs and experiences that help girls navigate gender, economic, and social barriers. Research-based curricula, delivered by trained, mentoring professionals in a positive all-girl environment equip girls to achieve academically; lead healthy and physically active lives; manage money; navigate media messages; and discover an interest in science, technology, engineering, and math. The network of local Girls Inc. nonprofit organizations serves 136,000 girls ages 6 - 18 annually across the United States and Canada. <https://www.girlsinc.org> . In **Ontario** include: **Girls Incorporated in Durham:** www.girlsinc-durham.org ; **Girls Incorporated of Limestone, Algonquin and Lakeshore:** www.girlsinlimestone.ca ; **Girls Incorporated of York Region:** www.girlsincyork.org ; **Girls Incorporated of Upper Canada:** www.girlsinc-uppercanada.org ; **Girls Incorporated of Halton:** www.girlsinhalton.org . In Alberta: **Girls Incorporated of Northern Alberta:** www.girlsincofnorthernalberta.org

More showcased women in IT/ICT

FocusIT has more women in ICT that you can read about. Just click here: <https://www.focusit.ca/students/prospective-students/girls-in-ict/women-in-ict/> **Must copy and paste this URL.**

National Center for Women & Information Technology (USA organization) is also a great place to go, to hear more stories about women. <https://www.ncwit.org/heroes> Heroes is a series of magazine-style audio interviews highlighting women entrepreneurs in information technology (IT) careers.

Young Women on the Move (YWM) is a powerful Toronto District School Board (TDSB) mentorship initiative for girls in Grades 3-12. Building on existing mentorship programs for girls, YWM empowers girls to become agents of positive change. YWM is a growing network of socially conscious young women supported by meaningful relationships with a strong community of mentors. <https://www.tdsb.on.ca/site/ViewItem.asp?siteid=10483&menuid=26638&pageid=22940> **Must copy and paste this URL.**

Because I am a Girl is a global initiative to end gender inequality, promote girls' rights and lift millions of girls – and everyone around them – out of poverty. Here in Canada, the **Because I am a Girl** movement is all about harnessing the incredible power that girls and women have here at home, to change the future. Plan seeks to enlist one million Canadians to join the movement and support gender equality around the world. By investing in girls, we can support a generation of empowered women, mothers, workers and leaders who will improve the lives of everyone around them. <https://becauseiamagirl.ca/>

Directory – Attention Teachers



Focus on Information Technology (FIT) is an innovative secondary-school certificate program that pathways students through ICT related courses. Developed by the **Information and Communications Technology Council** (ICTC), FIT strives to create a prepared and innovative workforce by encouraging youth to engage in technology and business studies. The programme is carefully aligned to provincial curriculum, allowing students to meet the requirements of their provincial diploma, while pursuing certification. Students are required to concentrate in one of four FIT areas of specialization that include: Interactive Media, Network and Operations, Software Design and Development, and Business and Information Analysis.

Extreme emphasis has been placed on encouraging female participation and extra resources have been provided for girls interested in ICT. Offered in both official languages, and recognized by industry and government, FIT is an exemplary programme that should be advocated by all educators and guidance councillors.



For more information about the FIT program and ICTC please visit: www.focusit.ca Or contact us by email at: fit@ictc-ctic.ca

National Center for Women & Information Technology is an American non-profit community of more than 450 prominent corporations, academic institutions, government agencies, and non-profits working to increase women's participation in technology and computing. NCWIT helps organizations recruit, retain, and advance women from K-12 and higher education. If you need help, check them out, as they may have something you can adapt. <https://www.ncwit.org/alliances/k-12> The whole site has great information. <https://www.ncwit.org/>

SRI International's project – Build IT: Girls Building Information Tech Fluency through Design is worth the reading even just to stimulate ideas. <https://www.sri.com/work/projects/build-it>

The Specialist High Skills Major (SHSM) program in Communications and Information Technology (IT) Some schools in Canada use this program <https://www.employerregistry.ca/L/Haltonen/Programs/SpecialistHighSkillsMajor/ICTSHSM/tabid/492/Default.aspx#more>

CIPS, Canada's Association of Information Technology Professionals, offers scholarships/mentorships/speakers nationally. For detailed information follow this link www.cips.ca/school-programmes

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