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The Future Skills Podcast

Season 5: Episode 3

AI in the Workplace and the Skills that Matter Most

In this episode of the Future Skills Podcast, host Jeremy Strachan explores the transformative world of Artificial Intelligence and its impact on the Canadian workforce. With insights from experts Noel Baldwin, Stephanie Enders, and Mark Patterson, we hear how Future Skills Centre research is helping us better understand the way AI is reshaping job markets, skills development, and employment strategies. The conversation tackles critical challenges like AI literacy, ethical considerations, and the need for adaptability in a rapidly evolving technological landscape. Discover how workers and businesses can leverage AI to enhance human skills, improve productivity, and navigate the future of work.

Guests

Noel Baldwin, Executive Director, Future Skills Centre

Stephanie Enders, Chief Delivery Officer, Alberta Machine Intelligence Institute (Amii)

Mark Patterson, Executive Director, Magnet

Host

Jeremy Strachan, Senior Research Associate, The Conference Board of Canada

Links

Future Skills Centre Homepage: https://fsc-ccf.ca/

Future Skills Centre LinkedIn: https://www.linkedin.com/company/fsc-ccf

Future Skills Centre Bluesky: https://bsky.app/profile/fsc-ccf.bsky.social

The Conference Board of Canada Homepage: https://www.conferenceboard.ca/

The Conference Board of Canada Twitter: https://twitter.com/ConfBoardofCda

The Conference Board of Canada Facebook: https://www.facebook.com/ConferenceBoardofCanada/

Future Skills State of Skills Report, Unleashing AI into the Skills Ecosystem: English | French

Alberta Machine Intelligence Institute (Amii) Homepage: https://amii.ca

Pan-Canadian Artificial Intelligence Strategy Homepage: https://ised-isde.canada.ca/site/ai-strategy/en

CIFAR Homepage: https://cifar.ca/

Vector Institute Homepage: https://vectorinstitute.ai/

MILA Homepage: https://mila.quebec/en

Magnet Homepage: https://magnetnetwork.ca/

Magnet AI Homepage: https://www.magnetai.ca/

The Conference Board of Canada Report, Artificial Intelligence Talent in Canada: **Emerging AI Skills and Future Workforce:** English | French

Transcript

Jeremy: Welcome to Season Five of the Future Skills Podcast, brought to you by the Future Skills Centre. I'm Jeremy Strachan, Senior Research Associate at The Conference Board of Canada, and your host for the season. On the Future Skills Podcast, we explore what matters most to Canadians when it comes to skills, training, and the ever-changing world of work.

Since 2019, the Future Skills Centre has been driving Canada's workforce transformation by funding innovative training solutions, cutting-edge research, and inclusive partnerships to ensure everyone has the skills to thrive in a changing economy.

In this episode, we're tackling one of the strongest forces shaping the skills ecosystem in Canada: Artificial intelligence. AI is not just a tool of the future—it's here now, reshaping industries, influencing workforce development, and redefining what skills are in demand.

My guests on this episode are Noel Baldwin from the Future Skills Centre, who'll share some of the research they've been doing to help employers leverage AI's potential. Then Stephanie Enders of the Alberta Machine Intelligence Institute, or Amii, joins me to talk about the importance of developing critical AI literacy. Finally, I talk to Mark Patterson from Magnet, who'll tell us about how AI is reshaping our entire relationship to navigating the job market.

AI is changing the nature of work, but the real question is: how do we make sure these changes benefit all workers, not just a select few? Research from the Future Skills Centre highlights the need for proactive strategies to address AI-driven disruptions, capitalizing on its potential to improve Canada's productivity and innovation.

While AI presents a wealth of opportunities, it also raises critical challenges around job displacement, bias in hiring, and access to upskilling. How can we ensure that Canada's workforce is prepared for these shifts? How do we equip workers with the digital and analytical skills they'll need in an AI-augmented world?

Up first on the podcast is Noel Baldwin. He's the Executive Director of the Future Skills Centre. You might have heard Noel on the podcast last season, when I spoke with him at Magnet Network Live in Toronto for one of our bonus episodes. Noel has been leading strategic

initiatives and policy development for two decades in the areas of post-secondary education, continuing education, and skills development.

Noel, welcome back to the podcast.

Noel: Thanks so much, Jeremy. It's great to be here.

Jeremy: Noel, can you tell us about some of the initiatives that the Future Skills Center has been supporting around the impact of AI on work?

Noel: Yeah, for sure. There's a few different lines of work that that we've been supporting through our partnerships. There's some, kind of, fundamental baseline research—and as your colleagues at Conference Board of Canada have been looking at things like this—the vulnerability and mobility of different occupations and workers within them. We've also been over the last few years conducting regular surveys of Canadians, and partnership with The Diversity Institute and Environics Institute for survey research.

And we've started to add in questions about people's experience using AI at work. And that's been really illuminating, partly because it does tell us that, I think, workers are ahead of their employers in terms of using the technology at work. So, it's about a third of workers in our last round of the survey said that they had already started to use it.

But what was even more interesting, I think, was, of that group, only a third of those had been directed to do so because that's what the enterprise wanted. And even fewer of them, only a quarter of them, had actually received any training.

And then we've been able to also launch some what we would call innovation pilot projects. For example, we've worked with the Michener Institute and University Health Network in Toronto, which is Canada's biggest network of hospitals. And they have been looking at the integration of AI into the health sector; both its applications, but then also what it takes to move big firms in the health sector, big hospitals in the health sector, towards safe and effective use of AI. So, the degree that you've got to engage with the leadership, for example, in order to then make sure that frontline workers are able to work with it.

Jeremy: That's right—Melissa Judd from the Vector Institute spoke about their work developing AI tools for the healthcare sector on the podcast last season. Listeners, you can hear that on Episode 1 of Season 4. So, Noel, I want to ask you about skills. One of the insights mentioned in the State of Skills report (that's linked in the show notes) that the Future Skills Center produced is that there's a potential for AI to complement human work—emphasizing uniquely human skills—critical thinking and emotional intelligence. And I wanted to ask, how can adopting AI enhance those human skills in the workplace?

Noel: Yeah, I think just to start with, this does have to be a positional thing, in a sense that the more that we can engage with AI with that mindset that this is an enhancement and not a replacement, the more likely we are to then actualize that. And so, I do worry sometimes—we hear narratives about labour-saving technology, right? And that can stoke some of those fears of job loss. I think it's also the case that in many occupations, the technology is just, it's just not there right now to fully replace human labour.

So, then, the question is about, how do you deploy it effectively because it is time saving, right? I think that's the part of the conversation we have to make sure that we're pivoting around, right? Then the part that brings in the human skills is, you have to be able to recognize whether what you're getting out of the AI machine, for lack of a better way of putting it, is actually what you need.

And or does it need to be tweaked and edited? Does it need to be reshaped for the purpose that you needed? But getting some of that first, especially around things like content development or summaries of particular pieces of research or areas of research can be really helpful. And the human side that enhances it is then to make it better, to make it more aligned with the values of your organization or what your firm is looking for.

And I think in this way, there's actually an opportunity there, right? Because I think that firms that have moved really quickly are the ones who are probably working through all of the bumps in the road of really realizing where some of the limitations are. So having perhaps being a little bit slower to move, we may ultimately benefit from the kind of evolution in the technology that will make it even more effective.

I think part of the research that The Conference Board has showed too is that some of the changes around occupations are going to be task oriented and not necessarily huge blocks of jobs themselves. But there's certainly—there's vulnerability on that front. Like, we did a piece of work with l'Institut du Quebec in, in Montreal, who looked specifically at the Quebec labour market. And they put as many as 800,000 jobs in the bucket of vulnerable to transformation.

That's still a huge change, right? So, it may still be on quite a significant scale, but we've got to start to turn that dialogue, I think, around questions like, what tasks are changing, versus which jobs are being eliminated and, and how do we position the technology to enhance and support human work as opposed to replacing it?

I think just to add on to that, I mean, I got asked recently for advice [from] a young person who was thinking about, really interested in pursuing a career in law. What are the things that they should be thinking about? And one of the first things I said, was like, get familiar with using AI, large language models, because one of the things that I think they are likely to do well in the future is to be able to really rapidly look up things like relevant case law.

And so that's likely to change articling for law students who want to go into that profession or the number of junior associates that firms need to have on hand. And to the extent that somebody preparing for that kind of career can get familiar before they even are trying to get through the front door, it probably will help to serve them well in the future.

Jeremy: Yeah, it's leveraging that ability to rapidly synthesize huge amounts of information in the learning process in ways that would have been much more time consuming before. Noel, looking ahead, what's on the horizon for the Future Skills Centre in the AI and skills space?

Noel: I think just to go back a little bit to the place that we started to, it's really important to continue to monitor and track and study questions. Like, as the technology's evolving, is it putting different groups of occupations, different groups of workers in a more vulnerable spot? And, also, as we start to see the deployment increase and start to see some of the impacts, how do we mitigate the downside for people and enhance the upside?

So, on the skills development and training side, how do we try to keep people resilient, developing their skills so that they navigate disruption that's happening. And then if they happen to be in a position where they are in a sector where there's job losses, or they're at a firm where there are changes, how do you get them back into the workforce with the relevant skills they need so that they don't experience that more often.

And that's the one part of this that I think is really the unknown variable is just—the technology's developed at such a rapid pace in the last few years, and it has become, as I think you said, off the top, sort of a pretty prevalent part of the discourse about the future of work.

Jeremy: Noel, thanks for joining me. It's always a pleasure to talk to you.

Noel: Yeah, thanks Jeremy. I appreciate talking with you. Thanks.

Jeremy: As Noel mentioned, one effect of AI's workforce transformation has been an increased focus toward enhancing human skills rather than replacing jobs, with an emphasis on critical thinking, social and emotional skills, and the ability to effectively evaluate what AI chatbots are telling us. To explore these themes further, and what challenges businesses need to address, I'm joined by Stephanie Enders, Chief Delivery Officer of the Alberta Machine Intelligence Institute, or Amii. Stephanie leads a number of initiatives aimed at transforming advanced AI research into practical ethical applications across a number of industries with a focus on responsible AI and open-source strategies. She's emphasized the importance of AI literacy and ethics and advocates for a human-centred practice in technology development.

[To Stephanie]: Stephanie, welcome to the podcast.

Stephanie: Thanks for having me, Jeremy.

Jeremy: Tell us about Amii. Tell us what some of the things that the Alberta Machine Intelligence Institute has been up to in the last handful of years and some of the work that you've been involved with at Amii.

Stephanie: For sure. So, Amii was established as part of the Pan-Canadian AI Strategy in 2017, and Canada is actually the first nation in the world to have a national AI strategy. And the focus was really on this dual purpose of advancing fundamental research and the critical talent in AI to keep Canada's position as a leader, while also finding as many pathways for commercialization of this technology to benefit society, but also our economy.

Jeremy: So, let's get into it. I wanted to ask you what your thoughts were on what some of the biggest challenges businesses face when it comes to dealing with AI in the workplace.

Stephanie: Absolutely. So, I think when we're looking at AI adoption, and kind of dealing with AI in the workplace, a lot of the things that are cited are things like the ethical challenges of AI; security and compliance; so, are we doing this with good data practices in mind? A lot of folks source the cost of implementation; and then of course, also, like, understanding the employees.

But I think it's maybe a little bit more basic than that. And it really comes down to a lack of basic literacy skills. So, understanding what this technology is, how it works, and why you might want to use it in your business. And then the elements of change management: So, it's like any major change management process. It's a big undertaking. It can be quite daunting. Really practically,

I think, not knowing where an org-AI should live is a big challenge facing AI adoption and use in the workplace.

Two sides of a coin of a perceived lack of control once you bring AI in, that, somehow, it's just everywhere and you've lost control of this adoption process with your teams. And on the flip side of that, it's like an all-or-nothing thing. People really see AI as an all-or-nothing thing. Once we open that door, we are an AI organization and everything has to involve AI. Or if we keep that door shut, it means that we don't have to really think about where it makes sense in our organization. We just know that we can keep things running as is.

Jeremy: Okay. So that leads me into some of the other questions that I wanted to ask you around skills. And I'm wondering if you could discuss some of these key skills that new labour market entrants will need in order to thrive and survive in a workforce that is becoming increasingly saturated with artificial intelligence—with AI.

Stephanie: UNESCO has a really well-established framework for doing that. K-to-12 education, which I think we're going to start seeing new versions of that, where their framework is really anchored on the practice of, like, citizens that can thrive in an AI era. Of course, it's very robust and it looks at really this kind of hierarchy. So, first is a human-centered mindset where AI prioritizes human well-being and ethical considerations in all aspects of development use, and that it's a technology that serves humanity, rather than the other way around. The next competency is really around the ethics of AI. We call that principled AI here at Amii, where it's really, what are the moral principles and guidelines that govern the development? But probably more important to the workforce is the deployment of that AI, with a focus on, really, as you're using this technology, minimizing harm and maximizing benefits for individuals in society. And when we look at the sustainable development goals for 2030, I always like to remind people that economic prosperity is one of the sustainable development goals. So, that benefit for individuals in society includes economic benefits.

And then the two that I think sometimes people want to start with, but are actually the hardest to get to, is AI techniques and applications. So, really having an understanding of the specific methods, algorithms, and tools used in AI systems across different domains. Because again, we hear a lot about large language models and generative AI, but it's not always the right method for the domain, and domain-specific ML [machine learning] might be a very different approach, but more impactful in a specific area for a company.

And then last but not least, my favorite one, which is AI systems design. So, skills and competencies related to the process of conceptualizing, creating, and refining AI systems. And this includes things like defining problems, developing architectures, and implementing feedback loops. And I love Ops. So, like I'm an Ops person in my heart. And so, in the competencies from UNESCO, AI systems design is truly about the AI system. I like to think about how that translates into all of the other systems in companies, and that competencies and skills is really about finding the intersection for the deployment of these competencies—AI systems into your existing systems.

So, for a small- and medium-sized business, this could be, like, as simple as having a good understanding of AI system design because you need to start inserting AI tooling into things like playbooks or standard operating procedures, or into, like, a risk matrix that might be going to

your board if you're a not-for-profit. So, I do think that there's a lot of scaffolding to be done between very broad competencies, different levels of fluency within those, like beginner and advanced, but also to really specific domains. So, the AI journey on skills and competencies is going to be different for every sector and likely every role within those sectors. I don't think there's like a one and done to rule them all, just like there's not one and done to rule them all AI.

Jeremy: So, to unpack the skills piece a bit more—and this is a really fascinating conversation we're having—I wanted to mention that in a Conference Board report released October of 2024, we found that demand for core AI skills is increasing, while the demand for peripheral AI skills is decreasing. And that report was funded by the Future Skills Centre, and was written in partnership with the Vector Institute; you can find a link to it in the show notes. We wrote that these skills trends underscored the importance of developing special AI expertise. And I'm wondering if you can comment on what you're seeing at Amii in the difference between those two kinds of skill sets.

Stephanie: Absolutely. And so, it's one of the great pleasures that I have in my role is seeing this development of, I would say, three different kinds of skill sets at the same time. So, those critical AI roles, things like AI scientists and researchers, ML Ops engineers, technical product managers—those are all skills that take a long time to cultivate. And with the research changing so quickly, [you need to have] a deep community of practice to stay at the top of your field. And here at Amii, we have an extensive chair program made possible by CIFAR [The Canadian Institute for Advanced Research] and that really powers the development of highly specialized critical AI roles through graduate students; and, so, really making sure that that pipeline of talent is available to Canadian companies is key for us. And through our partnership with the University of Alberta, seeing more of those students emerge with dual specialties in a domain expertise outside of AI, as well as at the forefront of AI.

So, we're super excited to see this next generation of critical AI talent who comes out of their graduate school with a dual understanding of a specific area, plus the application of AI in that area at the forefront. So, think things like space, chemical engineering, Indigenous identity, like, really the top folks and talent at that intersection.

I think in the supporting AI roles, it's really this piece of AI literacy that we've been talking about. But for a specific subsection of folks deploying AI within companies. And I think realistically, that's the layer of, like, data engineers, software engineers, DevOps folks, database folks that are still grappling with, what does that change in the job description mean light of generative AI? And so, I don't think that those roles are going away by any means, but I think that's a place where we're really seeing that the skill set will be different and have a different literacy set of needs related to interacting and partnering with AI in those specific roles.

Jeremy: What a perfect note to end our conversation on. Thank you so much, Stephanie, for taking time to talk to me today.

Stephanie: That was really fun. Thanks for having me.

Jeremy: Amii is one of three major hubs for AI innovation, along with the Vector Institute in Toronto, and Mila in Montreal, the major players in the Pan-Canadian AI Strategy leading research on the ethical, economic, and social impacts of artificial intelligence. But how is AI

affecting job seekers and employers in practical ways? To dig into this a bit more, I talked with Mark Patterson, the Executive Director of Magnet. Housed at Toronto Metropolitan University, Magnet is a center for social innovation, leveraging digital technologies and its extensive partner network to build a better and more inclusive labour market.

Mark, welcome to the podcast. Thanks so much for being here with me today.

Mark: Hey Jeremy, it's great to be here.

Jeremy: Mark, Magnet's really been on the frontlines of AI adoption in the workforce. Can you tell us about some of the work you've been doing with Canadian businesses to respond to the new environment?

Mark: Yeah, so I think what's important to recognize is that there are many organizations doing great work across the country, whether it's things like The Conference Board of Canada as well, doing research in what some of the challenges are—adoption, all the great work you guys are doing. At Magnet here, we're focused on actually working with small businesses, not-for-profits, post-secondary institutions, on actual adoption.

So, we see a challenge where awareness is still an issue. Like, awareness—that a small business should make this one of their top priorities. In kind of all those things that they're trying to consider and manage as a small business owner, that really thinking about how AI is affecting their organization, their industry, is really important as a business leader. So, we're really focused on that kind of first stage of awareness and then leading to adoption. Last year we did a lot more effort on just getting the word out: Hey, things are changing really, really quickly. There's some cool opportunities, but there's also risks. Let's have a talk about it. And now we're getting more into this year as we move forward, more actual strategies for adoption. 'Cause adoption is challenging.

Jeremy: I'm gonna pivot a bit, and I'm just wondering if we can switch from employers to perhaps job seekers and job outcomes. Have you seen any success stories or are there any kind of impacts that you're noticing about job outcomes for workers? Or, any data points in the course of running these, awareness initiatives over the course of the last year and a half or so?

Mark: I'm very excited about the opportunities that, especially some of the new generative AI tools and, and kind of, large language models, are creating a new paradigm in how we can support frontline workers in employment service organizations to have better data, better information at their fingertips, better understanding of local labour markets and conditions, to be able to better support and advise in the transition that people face, you know, whenever you're looking for work.

And that's relevant to somebody switching jobs, it's relevant to newcomers, et cetera. So, we've been involved in a number of initiatives. We're currently testing some tools. There's a lot of different organizations and tech platforms that are kind of advancing, but what is different about it? Like, what am I talking about? Why is it different? So, at one point in time, you know, many of us, I'm sure have applied for jobs before. You would look for a job on an online job board like Indeed. As an example, and you would search for a title that you, in your mind had, that this is a, the type of job that I can apply for, this is what I am an appropriate fit for. So, you'll go on

Indeed and you'll put in a search box, you know, marketing manager or supply chain analyst, or whatever the job may be, and then you'll get the results, you know, from that search.

So, what it's actually doing is, you know, title-based searching into a database of available jobs that employers have posted. Where we're going, the new paradigm, is really understanding kind of the individual—their preferences, their perspectives, so you know, not only what's on the resume, but potentially, other preferences, that an individual has. And comparing that to not just the title, but the content of all of the job postings that are available, right? So, you're getting a much deeper match, and it can even analyze, you know, what are the potential gaps? So, in my area that I prefer to live in, work in, these are the jobs that I'm more closely matched to, and these are the training programs that might help me put it over the top to be a great match for that job. So, that kind of difference in matching and informing and guiding somebody is—now, we're in a new paradigm where that is possible.

We're also hearing a lot from employers, like, you know, at one point resume and cover letters were an indication, or the cover letter was an indication of things like your ability to present your value to an organization; your ability to articulate your ability in the written word and the language, et cetera. And now everybody's saying, well, you know, all the resumes and the cover letters are coming in, they're kind of perfect. It's obvious they're being written by generative AI tools and now they're of maybe potentially less utility. So that's happening, but also, you get very excited about where perhaps employers understanding how to use generative AI tools could hire somebody, for example, with very minimal language skills that have the technical skills and they could be highly productive immediately if they're augmented with AI tools.

So, I know I've taken us through a whole range of things, but it's really interesting to see where in some areas it's going to create significant challenges or disruption in the way we do things. In other ways, it's going to support better knowledge and information. So, we're at a really interesting time, Jeremy, where the story's yet to be told and it's changing so quickly. The tools are getting better—like giant leaps forward. It's really, really fluid, and so I think huge opportunities—but also just like in every other area, there's going to be big challenges as well.

Jeremy: Wow. Thanks for that, Mark. So with AI and automation rapidly changing job requirements, the way that we approach looking for jobs and the way employers approach receiving candidates, how do you see workforce development evolving?

Mark: We often hear technology creates more net new jobs. Historically it's always been the case. I think something that's a little bit different—we need to think more about is the speed at which this change is happening, and in the acceleration of AI, AI tools, AI disruption. It's not just the chatbot that we're all used to talking about. It's how AI is accelerating every other technology and every other tool across every single industry. So, I think there's more discussion to be had on that. But I'm bringing this up because at the very least, it's going to cause more need for adaptability and resilience, words we've often heard that are becoming really important. Skills that are going to be important, or if you want to say, maybe more mindsets that are going to be really important.

I was at an event recently and somebody came up to me after it was a student, a recent graduate, who kind of expressed that they felt like they were running up the stairs, but the stairs were falling out behind them. And I guess my only answer to that is that I think that is the new

kind of state we are in. So, we all have to become comfortable with being uncomfortable. We all have to be able to find ways to be more resilient and accepting of change.

There's just a lot of disruption right now. And I think we need to find ways to support our workers and build the society we want, where everybody has meaningful work and can be productive in society. So, these are big issues, and I think [its] very important that the government's investing, that employers are investing, that organizations are all working together to think about this.

Jeremy: Mark, I think that's a great place to stop, and I want to thank you for joining me on the podcast and for a fascinating conversation.

Mark: Excellent. Thank you, Jeremy.

Jeremy: In this episode, we've heard that wherever you might find yourself in today's labour market, you're going to need the skills leverage artificial intelligence in some way. AI is here, it's not going anywhere, and most importantly, it's forcing us to adapt to new workforce realities more quickly than ever before.

Thanks again for joining us on the Future Skills Podcast, brought to you by the Future Skills Centre. I'd like to thank my guests, Noel Baldwin from the Future Skills Centre, Stephanie Enders from Amii, and Mark Patterson from Magnet. You can hear all five seasons of the Future Skills Podcast on your favorite podcast app. Give us a follow if you haven't, and stay tuned for the rest of the season. This episode was produced, edited, and hosted by me, Jeremy Strachan. Sound design also by yours truly. Thanks for listening.