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Annual Report 2024-25

Where AI research meets real-world impact

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The Vector Institute is funded by the Government of Canada, the Government of Ontario, and leading industry sponsors from across the Canadian economy.

Canada · Ontario · CIFAR

A message from Vector's Board Chair

Ed Clark
Chair, Board of Directors, Vector Institute

In April, I had the privilege of welcoming Glenda Crisp as Vector's new President & CEO. With her extensive experience leading data and AI transformation across major organizations, Glenda brings exactly what Vector needs at this pivotal moment.

The recognition of AI's transformative importance has never been clearer—Canada recently appointed the world's first Minister for AI, acknowledging that this technology will define our economic future.

Vector Institute's unique combination of world-class AI research and practical application continues to set the standard. From Geoffrey Hinton's 2024 Nobel Prize in Physics recognition to the hundreds of companies we're helping deploy AI responsibly in Ontario, we're proving that Canada can lead not just in developing AI, but in using it to create real economic value.

This moment demands we accelerate that AI leadership. We need to continue to recruit top talent with expedited pathways to Canada, build sovereign compute infrastructure for both the research community and SMEs, secure access to Canadian data assets with proper privacy controls, and govern these resources reflecting our shared values.

Countries and companies are moving fast to capture AI's transformative potential. Canada must move faster. Vector is positioned to ensure that we do.

A message from Vector's President & CEO

Glenda Crisp
President & CEO, Vector Institute

It is a privilege to step in and lead the Vector Institute at a time when Canada's AI leadership is translating into tangible benefits for our communities. This past year has demonstrated AI's remarkable progress across our ecosystem.

Ontario's foundational strength as a leading talent hub in North America is seen in our research community, which shared more than 360 papers at top global conferences, including 98 at NeurIPS 2024 alone.

But Vector is not only conducting world-class research, we're translating it into business value. We can see this on the ground—a 101% increase in AI jobs being created in Ontario and $2.6 billion in venture capital investment in Ontario-based AI companies. These aren't just statistics; they represent real opportunities for Canadians and concrete progress toward our shared vision of putting AI to work for everyone.

What excites me most is the collaborative spirit that drives these achievements. Whether it's our four new Vector Faculty Members bringing fresh perspectives, welcoming Unilever to our community of industry sponsors, supporting early-stage companies that are developing AI-driven health solutions, or training the next generation of AI talent, we're building an AI ecosystem where foundational research meets practical application.

This report details these stories and more. Together, we are proving Canada's leadership in AI.

Still, there is much work to be done. For all our successes, Canada is still falling short on adoption and compute power. Only with decisive action will we be able to translate our research advantage into long-term gains in productivity, competitiveness, and growth.

Now is the time to roll up our sleeves, dig in, and let only our ambitions confine us. Let's build a future where AI's benefits are shared by all.

Vision and mission

Vision

We will drive excellence and leadership in Canada's knowledge, creation, and use of artificial intelligence to foster economic growth and improve the lives of Canadians.

Mission

We will lead Ontario's efforts to build and sustain AI-based innovation, growth and productivity in Canada by focusing on the transformative potential of deep learning and machine learning.

We, together with our AI partners in other parts of Canada, will work with Canadian industry and public institutions to ensure that they have the people, skills, and resources to be best in class at the use of artificial intelligence.

We will support Canada's innovation clusters in artificial intelligence and focus on helping start-ups grow to become Canadian-based global leaders.

We will attract the best global talent focused on research excellence; our researchers and academic partners will be part of a vibrant community of innovative problem-solvers, working across disciplines on both curiosity-driven and applied research.

Benchmarking progress:
Ontario's AI ecosystem by the numbers

Each year, the Vector Institute produces a snapshot of the Ontario AI ecosystem, which is done in partnership with Deloitte Canada. Based on a combination of executive-level surveys and validated through industry databases and public sources, the report captures key economic indicators that benchmark the collective progress of governments, businesses, and institutions in strengthening Ontario's AI ecosystem.

This year's data (April 1, 2024 – March 31, 2025) confirms that the province's AI sector has grown significantly, cementing Ontario's position as a leading global AI hub. Buoyed by its remarkable concentration of AI talent, the AI sector is attracting major investments and creating well-paying jobs that directly support economic growth. To maintain this momentum, the sector needs to ensure leadership in other key areas by increasing AI R&D investment and stepping up the rate of adoption.

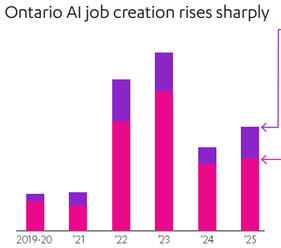
"Canada ranks first among G7 countries in AI talent growth due in large measure to Ontario's strong and growing concentration of AI experts. The data indicates that Ontario is becoming a powerful draw for AI companies and investment, providing a direct boost to our economy."

Glenda Crisp
President & CEO, Vector Institute

Ontario AI snapshot 2024-25:
The state of the province's AI ecosystem

TALENT & JOB MARKET

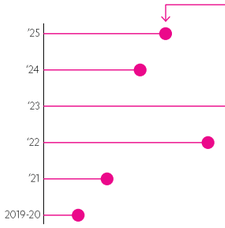
Ontario AI job creation rises sharply



17,196
AI jobs created
101% YoY
367% from 2019-20

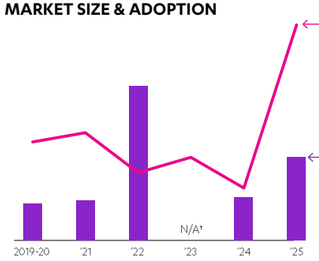
39,327
AI jobs retained†
8% YoY
143% from 2019-20

Ontario creating more well-paying AI jobs



5,605
well-paying jobs ($85,000+) for highly qualified professionals (HQPs*) graduated from AI-related programs in Ontario†
26% YoY
250% from 2019-20

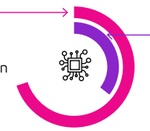
MARKET SIZE & ADOPTION



70
New AI companies established in Ontario
312% YoY
119% from 2019-20

27
AI companies relocating to Ontario
93% YoY
125% from 2019-20

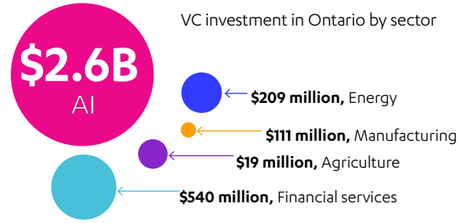
70%
of surveyed Ontario companies with a vision to sell or use AI have done so successfully
17% from 2019-20

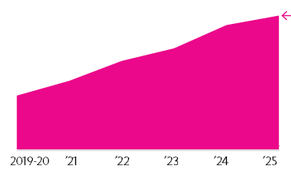


51%
of those firms have an enterprise-wide AI strategy - up from 44% in 2019-20

$2.6 billion **69**% YoY
VC investment in Ontario-based AI companies

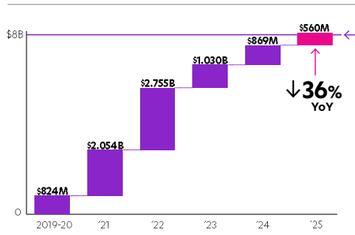
INVESTMENTS IN EDUCATION & BUSINESS





413
Companies investing in Ontario AI companies
8% YoY
149% from 2019-20

242 patents granted to Candian investors **10**% YoY



$8B+
in total investment in Ontario-based AI R&D† since 2019-20—but recent investment has fallen

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Deloitte.

Since 2020, the **Vector Institute** has produced snapshots of Ontario's AI ecosystem based on survey data and with support from Deloitte Canada. This year's snapshot (covering April 1, 2024 to March 31, 2025) tracks 10 metrics on topics such as **AI job creation**, **investment**, and **commercialization**. These metrics provide a means of gauging the progress that governments, businesses, and institutions are making to build a stronger AI ecosystem in Ontario.

* HQPs refers to individuals with university degrees at the bachelor's level and above.

† This metric was not tracked or tracked using a di"erent methodology in 2022-23. YoY comparisons to 2022-23 would not be valid as a result.

Innovation:
Fueling AI innovation with scientific breakthroughs

Vector's research leadership

Vector's renowned research community is advancing breakthroughs in AI. Over the past year, Vector researchers led numerous projects that ranged from finding new techniques that reduce computational load without compromising accuracy to exploring solutions for health care inequities. Each project contributes to AI's potential to foster economic growth and improve lives in Ontario and Canada more broadly.

By the numbers:
Showcasing the discoveries that reveal AI's potential

962
researchers in the Vector community

30+
research papers produced by Vector's AI Engineering team

329+
research talks

55+
Vector-hosted research events

369+
research papers presented at global conferences and in top-ranked journals

- 50+ papers at ICML 2024, including four awarded "ICML Best Paper"
- 98 papers at NeurIPS 2024

Global recognition for AI breakthroughs

Celebrating a shared legacy of AI innovation

Three of Vector's co-founders and affiliated researchers earned prestigious honours this year, which recognized their profound influence in shaping AI and inspiring the next generation of innovators.

Geoffrey Hinton awarded Nobel Prize for Physics
Vector co-founder and Chief Scientific Advisor, Nobel Laureate

Vector's co-founder and Chief Scientific Advisor Geoffrey Hinton was honoured with the 2024 Nobel Prize in Physics, reflecting the global significance and transformative impact of his work.

Sheila McIlraith earns CAIAC Lifetime Achievement Award
Vector Faculty Member and Canada CIFAR AI Chair, Professor in the Department of Computer Science, University of Toronto, and Associate Director and Research Lead, Schwartz Reisman Institute for Technology and Society

In recognition of her distinguished research in machine learning and AI safety and her enduring impact as a mentor of emerging talent, Vector Faculty Member Sheila McIlraith received the 2024 Lifetime Achievement Award from the Canadian Artificial Intelligence Association (CAIAC).

Raquel Urtasun named Fellow of the Royal Society of Canada
Vector co-founder, Faculty Member, and Full Professor in the Department of Computer Science, University of Toronto

Vector co-founder and Faculty Member Raquel Urtasun was named a Fellow of the Royal Society of Canada in 2024, recognizing her contributions to AI research, especially in advancing safer, more efficient, and sustainable autonomous vehicle technologies.

Advancing the frontiers of AI knowledge

Highlights of innovative research by Vector Faculty Members

Xiaoxiao Li was named a Canada Research Chair in Responsible AI for their work developing trustworthy, transparent systems that learn from diverse, changing data while protecting integrity, which can support ethical AI and improve decision-making in real-world applications.

Xi He received the University of Waterloo's Golden Jubilee Research Excellence Award for her research in differential privacy. She leads machine learning research in security, privacy, and fairness, with practical applications where data privacy is both crucial and complex.

Vered Shwartz is collaborating on Canada CIFAR AI Catalyst Grant-enabled research to improve the cultural awareness of large language models (LLMs) by reducing Western-centric bias. In a separate project, she is advancing responsible LLM use in the legal domain.

Alán Aspuru-Guzik and **Bo Wang** were featured in Nature for their innovations behind two of the seven "technologies to watch in 2025": Aspuru-Guzik's self-driving labs, which are advancing materials science, and Wang's foundation models for biology, which show promise in cell classification and drug discovery.

Harnessing AI in the fight against climate change

"Our collaboration with the Be Node platform connects Vector's incredible research community and engineering expertise with global climate action groups to unlock the potential of AI-enabled solutions in our collective efforts to address climate change."

Sedef Akinli Kocak
Director, Professional Development, Vector Institute, and Global AI Alliance for Climate Action Impact and Sustainability Lead

Democratizing weather forecasting with AI

Aiming to address both the urgency of climate threats and the environmental cost of forecasting them, Vector Postdoctoral Fellow James Requeima co-developed Aardvark Weather, an AI-powered model that delivers forecasts 10 times faster than conventional systems while using 1,000 times less computing power.

Aardvark uses end-to-end deep learning to map raw observational data, including satellite, ship, and station inputs, to key variables like precipitation and pressure, generating local and global forecasts in minutes. Research published in *Nature* shows Aardvark can outperform the U.S. Global Forecast System on several metrics.

The open-source model can operate on a desktop, making accurate and affordable forecasting accessible to smaller organizations and remote communities, with practical applications that range from wildfire predictions in B.C. to climate emergency preparedness in remote and Indigenous communities.

"Aardvark Weather's end-to-end learning approach represents a paradigm shift in weather forecasting that could democratize access to accurate predictions worldwide. This breakthrough has significant implications not just for meteorology, but for climate resilience in regions without access to sophisticated forecasting infrastructure."

James Requeima
Postdoctoral Fellow, Vector Institute

Attracting the world's top AI talent to Canada

Opportunities to collaborate with industry and health organizations, access to advanced computing resources, and the Canada CIFAR AI Chair program are just some of the reasons why Vector attracts world-class researchers who are unlocking new possibilities in AI and helping to grow Ontario's vibrant AI ecosystem.

By the numbers: Vector's world-class research community

140
Faculty Affiliates

649
graduate researchers

75
undergraduate students

47
Faculty Members, including **44** Canada CIFAR AI Chairs

51
Postdoctoral Fellows

"Vector Institute's reputation as a globally renowned AI research centre, combined with its computing infrastructure and collaborative community, made moving to Toronto an incredible opportunity. The ability to connect with leading researchers while accessing shared resources has been transformative for both my work and my students."

Colin Raffel
Vector Faculty Member and Canada CIFAR AI Chair, Associate Research Director, AI Engineering and Infrastructure, Vector Institute, and Assistant Professor, Department of Computer Science, University of Toronto

Growing Vector's community to shape AI's future

Vector's research community welcomed four new Faculty Members and Canada CIFAR AI Chairs this year:

Kelsey Allen
Vector Faculty Member, Canada CIFAR AI Chair, Assistant Professor, Computer Science, University of British Columbia

Evan Shelhamer
Vector Faculty Member, Canada CIFAR AI Chair, Assistant Professor, Computer Science, University of British Columbia

Freda Shi
Vector Faculty Member, Canada CIFAR AI Chair, Assistant Professor, David R. Cheriton School of Computer Science, University of Waterloo

Victor Zhong
Vector Faculty Member, Canada CIFAR AI Chair, Assistant Professor, David R. Cheriton School of Computer Science, University of Waterloo

Bridging cognitive science and AI

Kelsey Allen
Vector Faculty Member and Canada CIFAR AI Chair, and Assistant Professor, Computer Science, University of British Columbia

In a career that spans physics, cognitive science, and machine learning, Vector Faculty Member Kelsey Allen examines the mechanisms behind adaptive learning with a focus on reasoning and problem-solving skills. With an interdisciplinary approach to her AI research, she is combining cognitive science and machine learning to build systems that mirror human reasoning and learning.

Advancing health with AI innovation

Vector researchers are harnessing privacy-protected health data to tackle challenges like staffing shortages and patient wait times and to improve patient outcomes. Health partners benefit from Vector's AI engineering expertise, implementation tools, and talent pipeline, as well as collaborative projects to drive improvements in Canada's health systems.

5
new data sharing agreements with Ontario hospitals and research collaborators

33
research partnerships

Improving Alzheimer's disease detection with natural language processing models

Vector Faculty Member and Dalhousie University's Killam Memorial Chair Frank Rudzicz is leading research that uses natural language processing (NLP) models to detect Alzheimer's disease via speech analysis. In a recent study, his team's novel approach achieved 92% detection accuracy while reducing cost and invasiveness.

With dementia cases projected to rise sharply worldwide, this advance in AI-powered diagnostics has exciting potential for both clinical practice and the evolution of NLP innovations.

Frank Rudzicz
Vector Faculty Member and Canada CIFAR AI Chair, and Killam Memorial Chair and Associate Professor, Faculty of Computer Science, Dalhousie University

Transforming liver transplant care with machine learning

Liver transplants are a life-saving intervention for people living with end-stage liver disease. But conventional methods for prioritizing patients on waitlists create inequities, particularly for women, older patients, and people with complex or changing conditions.

Vector Faculty Member Rahul G. Krishnan and Vector Faculty Affiliate Mamatha Bhat have developed machine learning models that enable fairer and more effective transplant decisions and postprocedure care. Initially, a collaboration with University Health Network clinicians, the project is now being expanded to incorporate data from hospital systems across Canada.

Rahul G. Krishnan
Vector Faculty Member and Canada CIFAR AI Chair, Assistant Professor, Department of Computer Science, University of Toronto, and Assistant Professor, Department of Laboratory Medicine and Pathobiology, University of Toronto

Mamatha Bhat
Vector Faculty Affiliate, and Associate Professor, Department of Medicine, Temerty Faculty of Medicine, University of Toronto, University Health Network (Cross-Appointment)

Revealing the future of precision surgery with computer vision

Vector Faculty Affiliate and head of University Health Network (UHN)'s Surgical AI Research Academy, Amin Madani, is developing AI-powered technology to improve the accuracy and safety of surgery in real time. Successful surgeries rely on a surgeon's skill and judgment to navigate complex decisions under pressure and avoid complications.

Collaborating with Vector Faculty Member Michael Brudno and a multidisciplinary team of engineers and computer scientists, Madani and the team are using computer vision to train AI algorithms that offer real-time guidance during surgery. Madani calls AI-assisted surgery a 'game-changer,' citing the technology's promising improvements in surgical precision and patient safety.

Amin Madani
Vector Faculty Affiliate, and Assistant Professor, Department of Surgery, Temerty Faculty of Medicine, University of Toronto

Michael Brudno
Vector Faculty Member and Canada CIFAR AI Chair, Professor, Department of Computer Science, University of Toronto, and Chief Data Scientist, University Health Network

Powering AI health research: Vector's future-ready health compute system

As Vector continues to drive AI health research, its computing capacity is evolving to match. Vector's scientific computing team, led by Director Rob Naccarato, has launched the Vector Health Computing Environment (VHCE), a secure digital lab for working with sensitive de-identified health data.

The VHCE enables better data storage, tool access, and research scalability on a foundation that supports future upgrades and growth. Distinct from Vector's main AI compute cluster but managed within the same robust data governance framework, the VHCE enables secure, scalable AI research fueling future health care innovations.

Remarkable 2025

Vector's annual Remarkable conference brings together leading researchers and industry to explore AI's potential.

This year, the flagship event welcomed more than 2,000 participants from over 40 countries in dynamic discussions, keynote addresses, and technical sessions where they gained new insights on topics at the intersection of research and application.

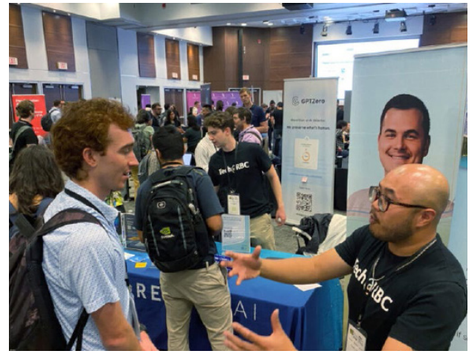
Distinguished guests included Dr. Laura Gilbert, Head of AI for Government Ellison Institute of Technology in Oxford, and Ruslan Salakhutdinov, UPMC Professor at Carnegie Mellon University, as well as leaders from Vector's health and industry partners.

CIFAR Deep Learning + Reinforcement Learning Summer School

Over 200 graduate students, Postdoctoral Fellows, and professionals gathered at Vector in July 2024 for the CIFAR Deep Learning + Reinforcement Learning Summer School (DLRLSS).

During the intensive 10-day program, participants learned from globally-renowned experts while making new connections across the AI ecosystem. Vector's partners, including RBC, TELUS, TD, and Roche Canada were well-represented at the School.

Marking its twentieth year, CIFAR's flagship AI education initiative aligns with Vector's commitment to fostering talent and advancing Canada's AI leadership.



Impact:
Translating AI ambitions into impact

Vector collaborates with industry and health partners to apply cutting-edge AI research, develop talent pipelines, and shape global AI strategy, helping Ontario organizations compete, grow the economy, and strengthen Canada's leadership in responsible AI.

By the numbers: Empowering industry to apply AI

32
industry partners
- **10** Platinum sponsors
- **20** Gold sponsors
- **2** Silver sponsors

14
new collaborations, ranging from AI Change Management to Retrieval-Augmented Generation

160+
industry focused events and workshops; topics include IP, commercialization, and talent development

50,000+
hours of knowledge transfer to industry sponsors

5,300+
participants upskilled or trained in Vector programming

Meet Vector's sponsor community

Working with Vector enables industry sponsors to stay competitive through skills training, hands-on experiences, and access to top talent. Tapping into Vector's technical expertise and cross-sector collaborations, industry sponsors can explore and develop AI solutions to address complex business objectives.

Industry partnerships

Expanding capabilities in advanced techniques ML and AI workload scaling: Accenture

Accenture participated in an AI bootcamp with Vector Institute to apply advanced ML Ops research and collaborate with leading experts in AI deployment and monitoring. The bootcamp resulted in enhanced capabilities and development of best practices in:

- Advanced monitoring systems using state-of-the-art observability tools
- Automated evaluation pipelines that ensure consistent AI quality
- Scalable deployment architectures with intelligent auto-scaling
- Comprehensive analytics frameworks for continuous optimization

"Our collaboration with Vector Institute through this bootcamp enabled us to advance critical capabilities in AI workload optimization and cost management. The frameworks we developed for scaling, monitoring, and deploying enterprise AI solutions directly support our commitment to maximizing business ROI while maintaining operational excellence. As enterprise AI adoption accelerates globally, these capabilities position us at the forefront of delivering scalable, cost-effective AI transformations."

Karthik Venkat
Lead, Centre for Advanced AI, Accenture Canada

Accelerating innovation to benefit pension plan members: OMERS

With more than $138 billion in net assets, OMERS is one of Canada's largest pension plans, serving more than 640,000 members. As AI continues to shape the business landscape, OMERS continues to leverage its collaboration with Vector Institute to provide team members with training and insights in this rapidly evolving field. OMERS was the first pension plan to participate in Vector Institute's financial services participant group.

Over 100 OMERS employees have attended Vector Institute sessions, with bootcamps offering in-depth exploration proving especially valuable. The most recent session provided an extended independent working period and guidance to explore the development of a language model gateway.

"When we formed this engagement in 2021, we recognized the importance of engaging a partner who had depth and breadth in the kind of innovation that would shape both business expectations and practices. The benefit of insights and expertise that Vector Institute provides has helped to inform our thinking about AI, shaping the way we work today and the potential for how we will work tomorrow in order to best meet the needs of our members."

Rodney Hill
Global Head of Technology, Data and Security, OMERS

Industry partnerships

Driving innovations in global railway safety with AI: Hitachi Rail

When Hitachi Rail joined Vector Institute's AI Model Deployment Bootcamp, they weren't just learning about time series analysis; they were laying the trackwork for next-generation railway intelligence.

As a global leader in rail technology, Hitachi Rail collects vast streams of data from track monitoring systems, vehicle sensors, and infrastructure components, yet conventional analysis tools often struggle to transform these data into accurate, actionable insights for predictive maintenance and vital safety monitoring.

By participating in Vector's Bootcamp, Hitachi Rail's research team gained hands-on experience working with advanced time series anomaly detection techniques that involve cutting-edge neural network architectures. Using publicly available data similar to their own, they trained and deployed models, building practical skills in deploying them in cloud environments and acquiring valuable experience with the full AI deployment lifecycle.

The Hitachi Rail team now possesses crucial in-house expertise to develop better predictive maintenance and safety monitoring capabilities, and ultimately to scale AI across their global operations.

"Vector's bootcamp approach allowed us to experiment with real sensor data in a risk-free environment while building the internal expertise we need for long-term innovation. With over 1,000 skilled engineers in Toronto who are delivering global rail projects, this innovation expertise is highly beneficial."

Walter Kinio
VP, Research and Innovation, Hitachi Rail Corp

Unilever joins Vector's vibrant industry community

In March 2025, Vector welcomed its newest Gold sponsor, Unilever. The partnership supports Unilever's mission to scale AI and builds on its Horizon3 AI Innovation Labs in Toronto, the company's new global hub for accelerating AI adoption.

Within a few short months of joining the Vector community, Unilever began to see benefits; tapping Vector's pipeline of top-tier talent to hire an Applied AI intern has unlocked improvements in crucial business functions.

"Through Vector's talent programming, I was able to quickly bring on a sharp PhD candidate with both strong research acumen and industry experience. Within just three months, he integrated seamlessly with the team and delivered a research breakthrough using GenAI to improve our forecasting accuracy by 13%."

Xiaojun Su
Associate Director AI/Machine Learning Lead, Horizon3 AI Innovation Labs, Unilever

Industry partnerships

Founding sponsor CIBC expands its Vector relationship

In August 2024, CIBC announced an expanded relationship with Vector Institute. Since joining Vector as a founding sponsor in 2017, CIBC has participated in several collaborative projects.

With its new commitment as a Platinum sponsor, CIBC aims to accelerate its momentum in AI talent development, enhance technical learning, and advance its commitment to the AI ecosystem.

"CIBC's collaborative work with the Vector Institute has helped to advance the principles of AI learning not just in Canada, but globally, which has positively influenced top talent in tech, ultimately helping make the ambitions of our clients and communities real."

Dave Gillespie
Executive Vice-President, Infrastructure, Architecture, and Modernization, CIBC

Winning with AI: Vector's sponsors excel among global peers

The 2024 Evident AI Index—an annual ranking of AI adoption and maturity across 50 leading banks in North America, Europe, and Asia—placed all five major Canadian banks in the top half of the Index. Vector is proud to support Canada's financial sector through productive collaborations, innovative sandbox projects, workforce development, and access to top talent that help drive their business performance.

Empowering Canada's innovators with AI: Vector's FastLane program

More than 175 Canadian small and mediumsized enterprises (SMEs) are accelerating their AI commercialization journey by participating in Vector's FastLane program. Vector hosted more than 35 events and workshops for FastLane members and industry sponsors over the past year, addressing topics such as professional development, talent advisory, IP education, and AI commercialization to compete successfully in the global economy.

Evolving Intelligence: Harnessing AI to simplify global asset transfers

Canadian fintech startup Evolving Intelligence joined Vector's FastLane community in 2024 to accelerate its AI-powered wealth management platform, which aims to help financial professionals navigate complex global asset transfers.

EVOLVING INTELLIGENCE INC

Through programs and guidance from Applied Machine Learning Scientist Shaina Raza, the team acquired skills, and added key features for market readiness. Their progress reflects Vector's role in driving responsible AI innovation and supporting emerging leaders in Canada's AI ecosystem.

"The mentorship and support we received was tremendous. We organized ourselves to make the most of this valuable resource."

Ali Saleh
President, Evolving Intelligence

Kiwi Charge

Kiwi Charge provides charging-as-a-service for EV owners in buildings without existing infrastructure. With support from Vector's FastLane program, they built an AI model to predict electricity demand and pinpoint optimal charging locations. Within months, they launched in major Canadian cities, securing a $1.5 million original equipment manufacturer pilot.

"The FastLane program was game-changing for us. It gave us the AI expertise, credibility, and product development support to transform our ambitious idea into a practical, revenue-generating solution all while staying lean and focused on what matters most to our business."

Abdel Ali
CEO, Kiwi Charge

PAVE AI

PAVE AI is uing AI to automate vehicle inspections and generate condition reports in minutes. Through FastLane, they worked with Vector to develop custom models for vehicle identification and odometer readings. Within two months, the models achieved 98% accuracy at scale, saving the workload of 20 full-time roles monthly.

"Vector is a must-have partner – helping us build world-class AI, giving us access to top AI talent, improving our product, and fast-tracking our path to millions in Annual Recurring Revenue."

Stephen Southin
CEO, PAVE AI

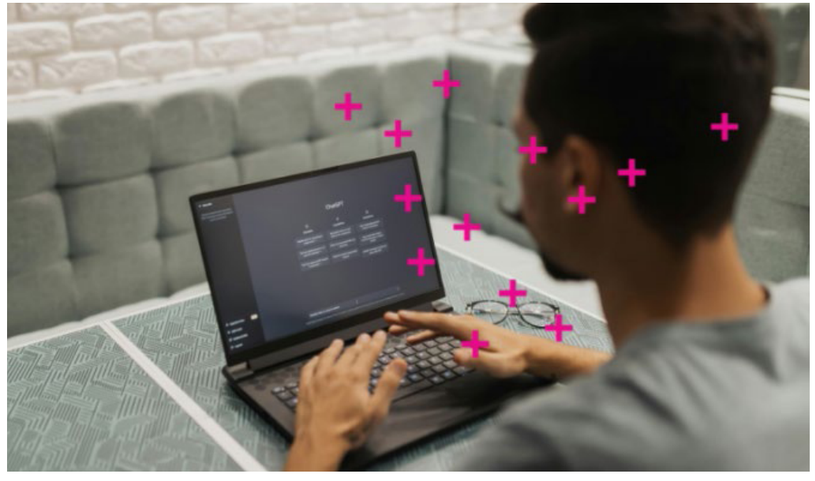
Bell Kearns & Associates

Bell Kearns & Associates, an Independent investment consultancy that joined FastLane in search of AI expertise to help reduce the time and labour required to summarize lengthy quarterly investment reports. With hands-on support from Vector experts and machine learning interns, they now have a generative AI-powered tool which saves more than 40 hours of manual work per cycle for their five-person team.

"Vector gave us the tools, knowledge, and confidence to bring AI into a non-technical firm—and it's now transforming how we work."

Darshan Mistry
Assistant Vice President, Bell Kearns & Associates Ltd.

Unlocking transparency in LLMs: Vector's State of Evaluations Study



As AI companies develop increasingly powerful LLMs at an unprecedented pace, Vector is helping end users, researchers, and developers better understand model performance to enable safe and responsible deployment.

In its first-ever State of Evaluations study, Vector's AI Engineering team assessed leading commercial and open AI models against 16 benchmarks—including several developed by Vector researchers that measure accuracy, reliability, and fairness and are now used globally. In a first for this type of research, Vector open-sourced both the results and the code, empowering the AI community to verify results, compare models, and run their own evaluations.

The work builds on Vector's leading role throughout 2024 in developing Inspect Evals, an open-source AI safety testing platform created with the UK AI Security Institute to standardize global safety evaluations and foster collaboration.

By examining the capabilities, limitations, and impacts of frontier models, as well as sharing the findings, Vector fosters transparency and reproducibility to support responsible AI use.

Putting principles into action: Vector's Playbook for Responsible AI Product Development

Veronica Chatrath, Technical Program Lead on Vector's AI Engineering team, presented the Playbook at the 2025 International Association for Safe and Ethical AI Conference, an official event of the 2025 AI Action Summit.

Entrepreneurs, product teams, tech leads, and others who work in AI development are benefiting from Vector's new product development playbook. Published by Vector's AI Engineering team, the playbook helps innovators build safe, ethical, and human-centred AI products, providing practical guidance across five product development stages aimed at embedding responsible AI practices into product design.

Grounded in Vector's AI Trust and Safety Principles, this practical, expert playbook connects responsible AI goals with tools like Inspect Evals, UnBIAS, and CyclOps to tackle real-world challenges.

"We built this playbook so teams don't just talk about responsible AI, they operationalize it every day. It helps AI builders ask the right questions, make thoughtful choices, and launch AI products that people can trust."

Carolyn Chong
Senior Product Manager, AI Engineering, Vector Institute

Launching future-ready AI careers: Vector internships and networks connect talent to opportunity

Through internships, workshops, mentorship programming and recruitment events, Vector is a proven launchpad for emerging AI talent in Ontario, helping them gain experience, launch careers, and help the organizations they join compete in the world of AI and data science.

Georgette Otoo

Data Analyst Intern, Vector Institute

Enrolling in a Vector-recognized master's program gave Georgette Otoo the technical foundation, ethical lens, and strategic mindset to apply AI responsibly.

"My Vector internship was more than a one-time opportunity; it came with ongoing support, mentorship, and a real sense of belonging. I had access to workshops, mentorship, and summits that connected me with professionals and peers already shaping the future of AI."

Georgette's Vector Scholarship in AI award marked a turning point, connecting her with a vibrant AI community and opened doors to hiring leaders at Vector's industry partners. Now interning with Vector's Research Operations and Academic Partnerships team, she's giving back, supporting the very programs that shaped her journey from international student to emerging AI professional.

OJ Onyeagwu

CIBC Data Analytics Team

Former Automation and Marketing Analytics Intern, Vector Institute

During his Automation and Marketing Analytics internship with Vector, engineering graduate OJ Onyeagwu acquired new skills and built a custom semantic search and recommender system for the Vector Institute's Partner Portal.

This opened doors to a role at Vector Platinum sponsor CIBC where he designs data pipelines for product analytics. He also continues to develop his skills through Vector's bootcamps and workshops, showcasing how Vector's internship, training, and education programs are shaping Ontario's AI workforce.

Justin Yang

Technology Architect, TELUS

Former Applied ML Intern, Vector Institute

First joining Vector as an Applied Machine Learning intern, Justin Yang tackled vital projects and participated in Vector's IMPACT Mentorship Program, which connects interns with AI experts at industry partner organizations.

After being mentored by a senior staff member at Vector Gold sponsor Deloitte, Yang leveraged Vector's Digital Talent Hub, where sponsors and AI-skilled job seekers connect, to launch his career with a full-time role at TELUS, another Gold sponsor at Vector.

By the numbers:
Developing skilled AI talent to fuel Ontario's growth

115
Vector Scholarships in AI

682
Scholarships awarded since the program launched in 2018

28
Vector-recognized programs at 13 universities

92%
of graduates from Vector-recognized AI programs are employed 12 months post graduation or pursuing further education in the field

91%
of those employed have remained in Ontario

1,877
jobs offered through Vector's Digital Talent Hub, where Canadian employers connect with outstanding talent

4,700+
AI talent profiles

60
applied interns collaborated with Vector teams and partners

57
research interns worked with Vector researchers

40+
Black and Indigenous students completed the Excel to AI course

1,785
new AI master's and study path enrollments

1,010
new AI master's graduates from Vector-recognized programs

25
students & alumni connected with 32 employers at Vector's annual AI Summit & Career Fair

Vector builds crucial pathways that attract, develop, and connect top AI talent to fuel Ontario's growth. Scholarships and internships foster workforce-ready AI skills and hands-on experience, while the Digital Talent Hub and AI Summit and Career Fair connect ambitious organizations with skilled job seekers who are ready to drive impact.

"I am deeply honoured to be a recipient of the prestigious Vector AI scholarship. This scholarship represents an exciting and pivotal step for my career in AI, and I am truly grateful for this award. With this funding, I have invaluable support for my AI studies, research, and projects."

Christine Tang
Vector Scholarship in AI recipient, Master of Management in AI, Schulich School of Business, York University

New report reveals 37% surge in demand for core AI skills in Canada

Demand for core AI skills in Canada has surged 37%, signaling an important shift in the talent landscape, according to a report by the Conference Board of Canada. *Artificial Intelligence Talent in Canada,* produced in October 2024 for the Vector Institute in partnership with the Future Skills Centre, attributes the rise to growing needs in areas vital to AI application, including machine learning, deep learning, and AI ethics and governance.

The findings highlight the value of Vector's programs that develop in-demand, application-ready skills and connect top AI talent with employers.

Supercharging Ontario's health innovators: HealthSpark

Vector's new HealthSpark initiative supports Ontario's early stage companies in developing promising AI-driven solutions in the health sector. Through technical expertise, training, and access to networks, Vector helps startups and scaleups to improve their AI-powered solutions to address the sector's most pressing challenges.

HealthSpark launched with a 2024 pilot project with Identos Inc., a leader in digital identity and access management. Working with Vector's technical experts and Southlake Regional Health Centre in Newmarket, Ontario, Identos enhanced their novel AI-powered navigation tool. The tool provides personalized, safe, and location-aware recommendations to simplify how patients and providers access services in the region.

This recommendation capability makes it easier for patients to navigate the complex health system. Vector is expanding HealthSpark to support six additional companies over the next two years as they develop safe, effective AI solutions to improve health outcomes for Ontarians.

"Working with Vector has enabled us to unlock significant advances in how we use AI in our technology. Through HealthSpark, our team was able to collaborate with the best minds in AI engineering and safe and secure health data management to enhance our solutions that simplify how patients and providers access services in Ontario's complex health system."

Mike Cook
CEO and co-founder of Identos Inc.

Strengthening Canada's voice in crucial dialogues

Reflecting Vector's stature as a top-10 global AI institute, Vector's senior leadership, faculty, and researchers are regularly invited to share their expert insights on AI-related policy, ethics, implementation, and more in consultations with the Canadian governments, as well as international organizations and AI safety institutes around the world.

Selected highlights of 2024-25 include:

- Vector's VP of AI Engineering Deval Pandya, along with Faculty Members Jeff Clune, David Duvenaud, and Faculty Affiliate David Lie were named to Canada's Safe and Secure AI Advisory Group, while Faculty Member Nicolas Papernot was appointed Co-Director of CIFAR's Canadian AI Safety Institute Research Program and Faculty Member Sheila McIlraith and Pandya joined its Research Council.

- Vector's then President & CEO, Tony Gaffney participated at the Ministerial Roundtable on the AI Strategy for the federal public service. He also contributed informed perspectives with the World Economic Forum's AI Governance Alliance and the OECD.AI community with Vector's Chief Information Officer Ben Davies.

- Roxana Sultan, Vector's Chief Data Officer and Vice President, Health, engaged extensively with both the federal and Ontario governments in consultations on compute infrastructure, Ontario's SmartHealth initiative, proposed federal legislation on digital security and trust, and access to information legislation.

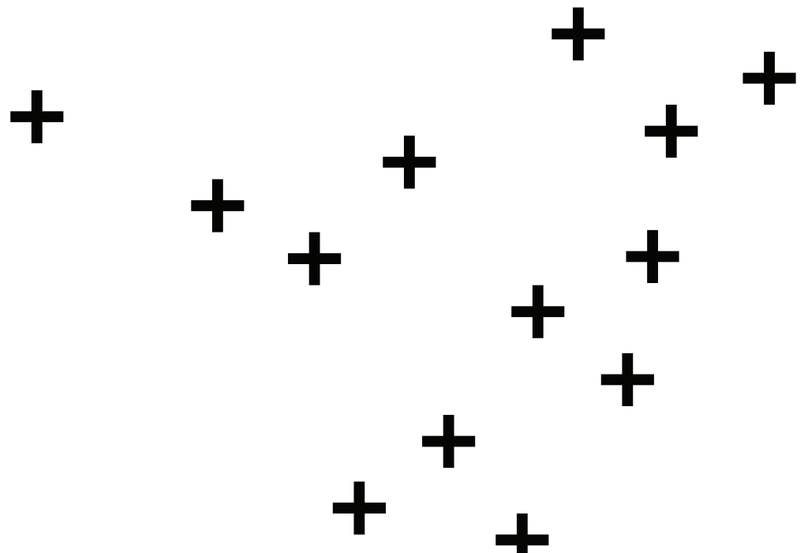
- Vector's Director of Professional Development Sedef Akinli Kocak was invited to share insights on AI and climate action at the November 2024 Conference of the Parties (COP29) to the United Nations Framework Convention on Climate Change.

By engaging in crucial dialogues and providing insights that can inform how AI intersects with Canadians' lives, Vector continues to advocate for the interests of Ontarians and Canadians while strengthening Canada's voice on the global stage.

Financial statements

Vector is funded through multi-year commitments from different funding sources, including:

- Funding through the Government of Ontario's Ministry of Economic Development, Job Creation and Trade (MEDJCT) to establish the institute, deliver core programming, and support the development of the AI ecosystem, including workforce development, scholarships, and support to develop AI master's programs.
- Funding from the Government of Ontario's Ministry of Colleges and Universities for Vector's Smart Health initiative.
- Federal funding from the Government of Canada through the Pan- Canadian AI Strategy (PCAIS) – Talent and Research, administered by CIFAR, to support research and education, including the Canada CIFAR AI Chairs Program.
- Funding from the Government of Canada through the PCAIS – Commercialization, administered by Innovation, Science and Economic Development Canada (ISED), to support Vector's AI commercialization programming and activities, including the FastLane program.
- Industry sponsorships at various levels and commitments that support Industry Innovation programs and related initiatives.



Statement of Financial Postition

March 31	2025	2024
Current		
Cash	$ 21,592,893	$ 20,969,584
Short-term investments	25,060,411	30,706,438
Accounts receivable	2,185,704	2,119,560
Current portion of employee loans	191,789	184,308
HST receivable	85,222	70,780
Prepaid expenses	815,167	714,566
	49,931,186	54,765,236
Employee loans	374,746	690,213
Capital assets	8,298,377	9,424,144
Total Assets	**$ 58,604,309**	**$ 64,879,593**

Liabilities and Net Assets

March 31	2025	2024
Current		
Accounts payable and accrued liabilities	$ 6,139,932	$ 20,969,584
Deferred rent	390,224	30,706,438
Deferred contributions	815,837	2,119,560
Deferred capital contributions	2,821,881	184,308
	10,167,874	
Net Assets		
Unrestricted net assets	48,436,435	54,304,667
Total Liabilities and Net Assets	**$ 58,604,309**	**$ 64,879,593**

Statement of Operations

For the year ended March 31	2025	2024
Revenue		
Government grants		
Province of Ontario	$ 8,091,639	$ 6,546,912
Government of Canada		
PCAIS - Talent and Research	9,145,788	9,365,823
PCAIS - Commercialization	5,000,000	5,000,000
Industry partners	9,083,334	9,916,667
Amortization of deferred capital contributions	657,006	1,121,978
Investment income	2,228,591	2,554,580
Other revenue	2,580,623	825,764
Employee loan recovery	82,014	-
	36,868,995	**35,331,724**
Expenses		
Research operations and academic partnerships	12,641,616	12,209,970
Technology adoption - Industry innovation	5,315,060	4,865,351
Technology adoption - Health	1,686,495	1,684,366
Business acceleration - AI engineering	5,598,810	4,459,501
Business acceleration - Technology	2,942,821	2,544,642
Thought leadership	2,889,393	2,485,928
General and administration	4,304,473	3,679,539
Loan accretion	20,474	-
Amortization	1,940,932	2,015,269
PAICE	5,417,627	-
	42,737,227	**33,965,040**
Excess (deficiency) of revenue over expenses for the year	**$ 5,868,232**	**$ 1,366,684**

Statement of Changes in Net Assets

For the year ended March 31	2025	2024
Net assets, beginning of year	$ 54,304,667	$ 54,304,667
Excess (deficiency) of revenue over expenses for the year	(5,868,232)	(5,868,232)
Net assets, end of year	**$ 48,436,435**	**$ 54,304,667**

Annual report: French language version

Scan the above QR code to access the digital French language version of Vector's 2024-25 annual report.

About Vector Institute

Launched in 2017, the Vector Institute works with industry, institutions, startups, and governments to build AI talent and drive research excellence in AI to develop and sustain AI-based innovation to foster economic growth and improve the lives of Canadians. Vector aims to advance AI research, increase adoption in industry and health through programs for talent, commercialization, and application, and lead Canada towards the responsible use of AI. Programs for industry, led by top AI practitioners, offer foundations for applications in products and processes, company-specific guidance, training for professionals, and connections to workforce-ready talent. Vector is funded by the Province of Ontario, the Government of Canada through the Pan-Canadian AI Strategy, and leading industry sponsors from across multiple sectors of Canadian Industry. For further information or media enquiries, please contact: **media@vectorinstitute.ai**