

Ontario Universities: Building Ontario's Digital Future

From AI-driven urban planning to cybersecurity networks and immersive game design, Ontario's local regions are being shaped by the digital infrastructure emerging from university talent and research. Municipalities across the province are turning to artificial intelligence, next-generation STEM graduates, and tech innovation to strengthen services, grow local economies and address pressing community needs.

At the heart of this transformation are Ontario's universities — training the next generation of engineers, data scientists, and creative tech leaders, and partnering with local governments to apply innovative research in real-world settings.

Whether it's monitoring water quality with AI tools, designing electric vehicles, securing digital systems, or developing new technologies, university graduates and researchers are laying the foundation for a more connected and competitive Ontario.

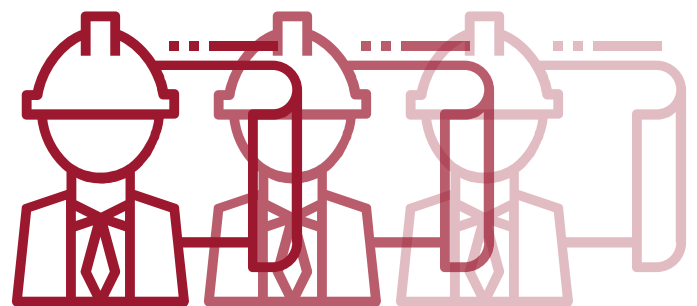
With surging enrollment in STEM fields, dedicated programs in cybersecurity, and world-leading AI expertise, Ontario's universities are ensuring communities across the province have access to the talent, innovation, and partnerships needed to thrive in a rapidly evolving digital economy.

Leading in Artificial Intelligence

- Did you know? AI is an engine of economic growth in Ontario with nearly **\$9.8 billion** in venture capital investments in AI between 2019 to 2025, according to the Vector Institute.
- Ontario universities are leading the development of AI talent, with nearly **5,000 new AI master's graduates between 2019 to 2025**, according to the Vector Institute.
- Ontario researchers and institutions are helping shape **global AI governance, ethics, and safety frameworks**.
- Ontario's universities are at the forefront of developing **ethical, responsible AI systems** and training the next generation of **data scientists, machine learning engineers, policy leaders and more**.

Jobs of the Future

- According to a recently released report by the World Economic Forum on [The Future of Jobs](#), AI specialists, cybersecurity professionals, and software/app developers are among the fastest-growing occupations, driven by **86% of employers seeing AI and information processing as highly transformative by 2030**.
- Nearly **80,000 AI jobs were created in Ontario between 2019 to 2025** and **70 new AI startups were founded**, according to the Vector Institute.



Training the Next Generation of STEM Talent

- Total **STEM enrollment** at an Ontario university has more than **doubled** in the last two decades – a 76% increase since 2010, according to Ontario Universities' Enrolment Data.
- By 2030, Ontario is projected to need over **233,000 new STEM professionals** – a gap universities are working to fill through targeted education and municipal collaboration, according to [Stokes Economics data from 2021](#).
- Engineering and Applied Sciences enrollment has shown a steady increase, growing from around **25,000 students** in 2000–01 to over **63,000** in 2023–24, according to Ontario Universities' Enrolment Data.
- Universities are working directly with municipalities to **align talent pipelines** with local digital infrastructure goals, from broadband expansion to transit tech.

Cybersecurity: Protecting Ontario's Digital Future



- Ontario universities offer **specialized cyber security programs**, training students in fields like quantum computing, risk assessment and ethical hacking.
- Several universities also house **cybersecurity incubators**, supporting student entrepreneurs and municipal partnerships that help strengthen local cyber resilience.
- Ontario graduates are helping municipalities **protect critical systems** – from water treatment plants to smart grid infrastructure.

Real-World Impact

- University researchers are partnering with municipalities to design **AI-enhanced urban water systems, satellite-based communications** for remote areas and **data-driven transit planning**.
- Universities are working on **nuclear microreactors** and **smart grid technology** to power cleaner, more reliable energy in underserved communities, deploying digital twin simulations and sensor networks to monitor and maintain infrastructure before problems arise – saving costs and improving safety.

Powering Creative Tech and Digital Media Skills for a Booming Video Game Industry

- When Ontario universities are producing the next generation of **game developers, animators, and designers** for one of Canada's fastest-growing industries.
- Students are being recruited directly into **top companies** like Epic Games, Ubisoft, Gameloft, and TD Bank's digital teams.
- Game design education is **advancing interactive simulation, training, and learning tools** that support municipal needs in emergency response, health, and planning.

A Digital Infrastructure Talent Engine

Ontario's universities are not only **preparing students for the jobs of tomorrow** – they are **driving innovation** that's improving quality of life today.

Through powerful collaborations with municipalities and industries, universities are **solving real problems while helping build digital infrastructure** that is smart, secure and innovative.

