



HUMBER
POLYTECHNIC

Faculty of Applied Sciences
& Technology

FAST Times

NOVEMBER 2025

DEAN'S MESSAGE

Dear Colleagues,

As autumn paints the trees in shades of red and gold, this seasonal transformation mirrors our return to the fall academic term — embracing new routines while continuing to push the boundaries of discovery.

The launch of the new Honours Bachelor of Computer Science – Cybersecurity is designed to produce future-ready leaders equipped to meet the growing global demand for cybersecurity professionals. As the only degree program in the post-secondary landscape to comprehensively address this intersection, Humber is uniquely positioned to provide a next generation learning experience.

While the first cohort of students for this program begin Fall 2026, we recently celebrated the next generation of engineering, ICT & skilled trades leaders at Fall Convocation and highlight captured moments in “Home Sweet Humber.”

In this issue, we shine a spotlight on ICT & Engineering students who earned first place at a Hackathon hosted by the Longo Centre for Entrepreneurship, and a Cybersecurity Professor, who was awarded a Community Leader Award by Canadian Security Magazine. We also profile a Capstone

Project by a team of AI Graduate Certificate students who applied their skills to design a Performance & Engagement Scoring Platform for industry sponsor, ThinkSwift.

We have many more stories on the following pages including a unique collaborative partnership between an industry partner and our Landscape Technician Program students who literally dig into a project using warm castings!

As the lush greens give way to brilliant shades of red, orange, and yellow, I encourage you to wander through the Arboretum, take in nature's unfolding masterpiece, and celebrate the many opportunities this season, and what our innovative faculty & students bring!



Warm regards,
Francis Syms, P.Eng.
Associate Dean



NEW HONOURS BACHELOR OF COMPUTER SCIENCE - CYBERSECURITY STARTS FALL 2026

The global cybersecurity workforce gap is projected to exceed 3.5 million unfilled positions, creating unprecedented opportunities for qualified professionals at all career stages. In response to this critical shortage, Humber has launched a new Honours Bachelor of Computer Science in Cybersecurity.

As the only degree program in the post-secondary landscape to comprehensively address this intersection, this program is set apart by its unique integration of Artificial Intelligence (AI) directly into the core of cybersecurity education.

By exploring the powerful intersection of AI and cybersecurity, this program emphasizes innovative solutions driven by scalability, efficiency, speed and automation.

Starting Fall 2026, graduates will be prepared not only to defend against today's threats but also to anticipate and mitigate the complex cybersecurity challenges of tomorrow — giving them a competitive edge in a rapidly evolving digital landscape.





HUMBER LAUNCHES SCHOOL OF CLEAN ENERGY

In response to the urgent need for skilled professionals in the rapidly expanding clean energy sector, Humber Polytechnic has launched its School of Clean Energy, within the Faculty of Applied Sciences & Technology. Francis Syms, associate dean is the newly appointed Head of the School.

As global electricity demand surges - driven by AI, data centres, and widespread electrification - Ontario must more than double its electricity generation capacity by 2050. From COP28, climate change commitments from nearly 200 countries continue to collectively increase renewable energy capacity and improve energy efficiency. With COP30 starting today, organizations must work to accelerate innovation across the clean energy economy.

“The time for implementation has arrived, which is why we are launching the School for Clean Energy now. We can’t have all these climate and net zero goals without building a workforce that can meet the moment,” said Ann Marie Vaughan, president and CEO of Humber Polytechnic. “Humber is positioning our students to become leaders, innovators, and disruptors in this evolving industry as we build on our long-standing commitment to developing industry-responsive programs and facilities.”

“The future of work is changing, and this new educational hub is designed to provide our learners with the edge they’ll need to succeed in high-demand fields,” said Francis Syms, associate dean.

Visit humber.ca/schoolofcleanenergy for more information.





FAST CELEBRATIONS

FAST STUDENTS WIN FIRST PLACE AT ACHIEVAFLOW FOUNDATION HACKATHON

Congratulations to Rida Fathima (B.Eng. ICT), Edgar Flores (Mechatronics Engineering) and Gurpratap Smagh (Cybersecurity), who, together with Humber teammates Polina Gapotiy and Xcaret Campos, clinched first place at the AchievaFlow Foundation Hackathon!

Organized by the Longo Centre for Entrepreneurship, the team designed a creative, data-driven solution that helps AchievaFlow grow while making a meaningful impact on global mental wellness. The team collaborated to develop a creative concept that combined strong business strategy with technical problem-solving showcasing how interdisciplinary teamwork can turn ideas into tangible solutions within just one day.

Well done!





FAST CELEBRATIONS (cont'd)

FAST PROFESSOR RECIPIENT OF CANADIAN SECURITY COMMUNITY LEADER AWARD

Congratulations to Cybersecurity Professor, AlaaAldin (Aladdin) AlRadhi who is the recipient of the Community Leader Award (Honourable Mention) from Canadian Security Magazine!

AlRadhi is an educator and mentor with decades of experience as an electronic engineer, IT consultant and cybersecurity professional. He teaches classes, with a curriculum that includes cybersecurity, ethical hacking, digital forensics, artificial intelligence and cloud systems. He is also internationally recognized as an expert in IPv6, the most recent version of Internet Protocol and the successor to IPv4.

Congratulations Aladdin!



Congratulations to Jordan Dimitrov whose paper "Voltage-to-period converter offers high linearity and fast operation" is published in [EDN](#), an electronics community for engineers, by engineers.



HOME SWEET HUMBER

FALL CONVOCATION

Celebrating and showcasing life at North Campus and Carrier Drive!



Share your life on campus images in the next FAST Times issue! Please submit to Jennifer Buchalter:

jennifer.buchalter@humber.ca

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HOME SWEET HUMBER

FALL CONVOCATION (CONT'D)





FAST STUDENTS DIG INTO SOIL HEALTH USING WORM CASTINGS IN COLLABORATIVE LANDSCAPING RESEARCH PROJECT

What happens when landscaping students, environmental architects, and soil health researchers team up?

At Humber Polytechnic, the answer is a thriving collaboration that's transforming soil from the ground up!

Students in our Landscape Technician Program have partnered with Jocelyn's Soil Booster, featuring worm manure products from Wastenot Farms, to explore the regenerative power of vermicompost and compost-based soil amendments.

A partnership rooted in sustainability, this project aims to explore how soil health can be enhanced through compost and vermicompost amendments, and how these practices can be applied across diverse urban settings to address current real-world environmental challenges.

Read the full feature story in [Education News Canada](#).





BARRETT CENTRE FOR TECHNOLOGY INNOVATION

FULL STEAM AHEAD

We proudly celebrated the official launch of the Barrett STEAM Academy – a 12-week Saturday program where students in Grades 6–12 embark on an exciting journey through Science, Technology, Engineering, Arts, and Math.

Thanks to the generous support of the Barrett Family Foundation, this program empowers young minds to explore their curiosity through hands-on projects, interactive learning, and real-world problem-solving. The celebration

brought together the Humber Polytechnic community leaders, families, and our amazing campers – all united by a shared belief in the power of education to inspire the next generation of innovators and creators.

A heartfelt thank-you to the Barrett Family Foundation for investing in our youth and helping to build brighter futures through STEAM education!





BARRETT CENTRE FOR TECHNOLOGY INNOVATION (cont'd)

BOARD OF GOVERNORS VISIT

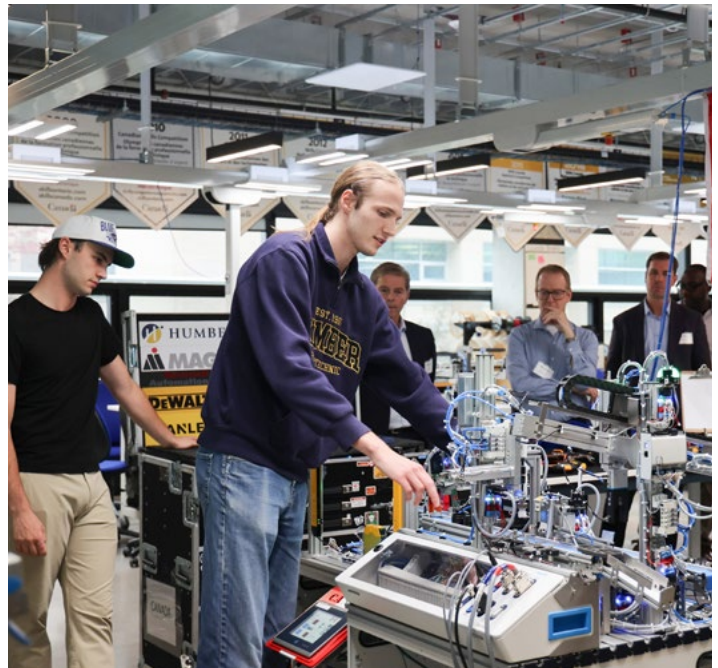
On October 22, we had the pleasure of welcoming Humber Polytechnic's Board of Governors for a special tour and discussion about the future of education, student outreach, and industry collaboration. The visit highlighted the cutting-edge resources across the many interactive labs, technology zones, and maker spaces that make the Barrett CTI a powerhouse of technological innovation.

During the tour, Board members had the opportunity to see firsthand how hands-on learning and industry partnerships empower Humber students to develop future-ready skills. From robotics and mechatronics to cybersecurity and industrial design, each lab and project represents a commitment to bridging the gap between classroom learning and the evolving needs of industry.

One of the highlights of the visit was a stop at the Skills Lab, where board members met two of Humber students who were in the midst of training to represent Canada on the international stage at the upcoming WorldSkills competition for Mechatronics. Electromechanical engineering students Cole Hunter and Grant Maddock exemplify the excellence, dedication, and technical expertise fostered through Humber's experiential learning model - one that equips learners to compete, and succeed, at the highest levels.

Barrett CTI team members also shared insights into current and emerging projects that demonstrate how students, faculty, and industry partners come together to solve real-world challenges. By connecting students directly with the tools, technologies, and expertise shaping tomorrow's workforce, we're not just preparing graduates for jobs - we're preparing them to lead.

Thank you to the Board of Governors for their ongoing support and vision as Humber continues to redefine what's possible in education and applied innovation.





BARRETT CENTRE FOR TECHNOLOGY INNOVATION (cont'd)

CANADIAN MANUFACTURING TECHNOLOGY SHOW (CMTS) 2025



We had the pleasure of hosting an exhibit at the Canadian Manufacturing Technology Show (CMTS) 2025 – Canada's largest manufacturing technology showcase. Over the four-day event, more than 9,000 industry professionals and 750 exhibitors made the Toronto Congress Centre the national stage for breakthroughs transforming robotics, automation, manufacturing, precision engineering, and digital transformation.

It was an incredible opportunity for the Humber team to connect with partners, explore emerging technologies, and highlight how education and innovation go hand in hand in preparing the workforce of tomorrow.

Also making its public debut was the recent collaboration between one of Barrett CTI's Advanced Consortium partners, SCHUNK Canada, and Humber electromechanical engineering students and Canada's National Mechatronics Skills Competition winners Cole Hunter and Grant Maddock. The result: An automated machine-tending pedestal showcasing the capabilities of the SCHUNK products for precise handling in engineering, assembly, machining, and automotive industries. This project highlights how a combination of automation can be utilized to perform repetitive manufacturing tasks like loading and unloading more efficiently - driving productivity, improving consistency, and redefining how tasks are performed.

Through partnerships like this, Humber Polytechnic continues to demonstrate what's possible when industry and education come together to drive innovation.





FAST LEARNERS

CAPSTONE SPOTLIGHT



TEAM NAME:

Albrogs

CAPSTONE PROGRAM NAME:

Performance & Engagement Scoring Platform

INDUSTRY SPONSOR:

ThinkSwift

PROGRAM:

Artificial Intelligence,
Ontario Graduate Certificate

TEAM MEMBERS:

Vanshika Flemia Dcosta
Ritu Chandrashekhara Yadav
Sam Parmar
Jay Rajesh Pandya
Rimjhim Raghuwanshi

TELL US ABOUT YOUR CAPSTONE PROJECT?

Our Capstone Project, Prevision360, focused on building a performance and engagement scoring platform for startups. Sponsored by ThinkSwift, the system addresses challenges of data opacity, fragmentation, and inefficient analysis in the venture ecosystem by unifying qualitative feedback and operational metrics into interpretable scores.

Using a BERT-based NLP model, we processed stakeholder feedback to extract sentiment and subjectivity, while a TensorFlow deep learning model fused these insights with structured KPIs and relationship data. The pipeline produced sub-indices for performance, involvement, and sentiment, which were combined into a comprehensive Prevision360 Score.

We implemented multi-level preprocessing, bias detection, and feature engineering to ensure data quality, and deployed the workflow on Azure Kubernetes Service (AKS) with versioned storage in Blob Storage. Extensive testing and documentation ensured robustness and reproducibility. To enhance usability, we built a PowerBI dashboard that visualizes company scores and tiers, supporting data-driven decision-making for founders, investors, and stakeholders.

This project demonstrated the feasibility of integrating AI, cloud-native MLOps, and explainability into a scalable scoring framework, laying the foundation for real-world deployment and future enhancements like real-time analytics and investor-side scoring.



FAST LEARNERS (cont'd)

CAPSTONE SPOTLIGHT

WHAT WERE SOME OF THE MOST IMPORTANT SKILLS YOU LEARNED?

Through this project, we learned how to design and implement a full AI/ML pipeline that integrates both qualitative feedback and quantitative KPIs into a unified scoring framework. We gained experience with advanced techniques such as NLP-based sentiment analysis using BERT, bias detection in stakeholder inputs, and building deep learning models in TensorFlow. A key learning was applying autoencoders with LSTM layers for anomaly detection and score generation, which helped capture hidden patterns in sequential data and improved interpretability of company performance. On the cloud side, we strengthened our knowledge of scalable MLOps, containerization, version control, and deployment on Azure Kubernetes Service. Just as importantly, we learned the value of teamwork working in a diverse group taught us how to leverage each member's strengths effectively.

HOW DID HUMBER PREPARE YOU FOR A REWARDING CAREER IN YOUR FIELD?

Humber prepared us for a rewarding career in AI/ML by providing both strong technical foundations and real-world application opportunities. The program's blend of advanced coursework, hands-on labs, and the capstone project gave us practical experience with machine learning, NLP, deep learning, and cloud-native MLOps. More importantly, Humber emphasized teamwork, communication, and industry collaboration, which are critical for success in the field. Our mentor, Timothy Wong, was instrumental throughout the journey always on his feet, guiding us on how to effectively engage with our sponsor and supporting us at every step of the process. This combination of technical rigor and mentorship gave us the confidence to transition into industry-ready roles.

WHAT TIPS/ADVICE WOULD YOU GIVE TO STUDENTS INTERESTED IN THIS PROGRAM?

Stay curious, manage your time well, and embrace both the technical and collaborative aspects of the program. Focus on building strong fundamentals, explore cloud and AI tools hands-on, and actively engage with mentors and peers to maximize learning.



UPCOMING EVENTS

November 15

FALL Open House
10AM – 2PM

November 24 – 28

Level Up! Skilled Trades Career Fair
International Centre Hall 2

WE WANT TO HEAR FROM YOU!

FAST Times recognizes and celebrates the achievements of our faculty and students. To share your successes with us, please submit stories and images to the Office of the Senior Dean, Julie Pasquin: julie.pasquin@humber.ca

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