Teaching-Track Faculty Position
McMaster University, W Booth School of Engineering Practice & Technology

McMaster University is located on the traditional territories of the Haudenosaunee and Mississauga Nations and, within the lands protected by the Dish with One Spoon wampum agreement.

Position Description

McMaster University's Faculty of Engineering invites applications for a teaching-track position at the rank of Assistant Professor in the W Booth School of Engineering Practice & Technology. The position will be located on the main university campus to begin on July 1, 2024.

The School seeks to recruit an excellent teacher with interest and experience in experiential learning and innovative ways of teaching Smart Systems and/or Artificial Intelligence. Successful candidates will be expected to:

- Teach six courses in both undergraduate and graduate levels (18 credit hours per year)
- Contribute towards the delivery of the School's undergraduate and graduate programs, e.g., by mentoring students, introducing new teaching techniques, evaluating student progress, engagement and motivation through interactive and innovative teaching strategies.
- Participate in the ongoing design and delivery of courses in AI, IoT, machine learning/deep learning, embedded systems, low power networks, digital electronics, smart systems, autonomous driving, and cyber-physical systems.
- Develop and update course materials, assignments, and projects to meet industry standards and emerging trends; and collaborate with other instructors, staff, and industry experts to ensure course quality and relevance.
- Remain up to date with the latest technologies and trends in AI, IoT, machine learning, embedded systems, low power networks, and digital electronics.

Registration, or eligibility for registration, by the Professional Engineers of Ontario is desirable. Salary and rank are commensurate with experience and qualifications.

The successful applicant will hold a PhD in Electrical Engineering, Computer Science, Data Analytics or a related field, possess experience using AI, machine learning, and IoT technologies to develop real-world smart solutions in various fields such as industrial automation, healthcare, smart cities, and autonomous driving; and should have experience in designing and delivering courses that cover a range of topics, including:

- Programming languages such as C, C++, Python, and Java.
- Data analytics and statistical analysis tools such as MATLAB, R, and Python.
- Machile learning tools/platforms such as SciKit-Learn, Tensorflow, Keras, or PyTorch.Microcontrollers and microprocessors such as ARM, PIC, and AVR.
- Hardware design and development tools such as Altium, Eagle, or KiCad.
- Low power networks such as LoRa/LoRaWAN, Bluetooth, Zigbee, 6LoWPAN and Sigfox

- Cyber-physical system tools such as MQTT, Node Red, and SSH.Cloud computing platforms such as AWS, GCP, and Azure.

The applicant must also demonstrate a record of excellence in teaching, reflected in outstanding teaching records, and a willingness and ability to contribute to the School's collegial and collaborative intellectual community as well as university-wide inclusive excellence goals and priorities. Applicants are expected to have demonstrated successful pedagogical research, or to show potential for successful pedagogical research.

The W Booth School of Engineering Practice and Technology (SEPT) within McMaster University's Faculty of Engineering is dedicated to student-centered experiential learning through flexible, adaptable and innovative programs and teaching using state of the art resources and facilities. The learning environment emphasizes hands-on education and transferable skills to produce engaged graduates ready to serve a diversity of community and societal needs. With key partners such as the Canadian Manufacturers & Exporters groups, the W Booth School of Engineering Practice and Technology has a unique opportunity to reach out to more than 25,000 enterprises across Canada.

McMaster Engineering has a reputation for innovative programs, cutting-edge research, leading faculty, and aspiring students. With over 200 faculty members who mentor approximately 8,000 undergraduate and over 1,400 graduate students, about half of whom are doctoral students, we have earned a strong reputation as a centre for academic excellence and high-impact research and innovation. Discover more of what McMaster Engineering and the Hamilton area have to offer academic professionals and their families by reviewing our Information Guide highlighting our research excellence, family-friendly resources and rich local culture. Opportunities for continuous personal and professional growth are also made available through the Faculty of Engineering's Fireball Academy and the MacPherson Institute.

Commitment to Inclusive Excellence

The diversity of our workforce is at the core of our innovation and creativity and strengthens our research and teaching excellence. In keeping with its Statement on Building an Inclusive Community with a Shared Purpose, McMaster University strives to embody the values of respect, collaboration, and diversity, and has a strong commitment to employment equity.

The University seeks qualified candidates who share our commitment to equity and inclusion, who will contribute to the diversification of ideas and perspectives, and especially welcomes applications from First Nations, Métis and Inuit peoples, members of racialized communities ("visible minorities"), persons with disabilities, women, and persons who identify as 2SLGBTQ+.

We invite all applicants to complete a brief Diversity Survey as part of the application process. It takes approximately two minutes to complete. All questions are voluntary, with an option to decline to answer. All information collected is confidential and will be used to support efforts to broaden the diversity of the applicant pool and to promote a fair, equitable and inclusive talent acquisition process. Inquiries about the Diversity Survey may be directed to hr.empequity@mcmaster.ca.

Job applicants requiring accommodation to participate in the hiring process should contact the Office of

the Dean of Engineering at 905-525-9140 ext. 24900 to communicate accommodation needs.

How to Apply:

Please submit the following materials through the University's electronic portal: https://hr.mcmaster.ca/careers/current-opportunities/ [Job Opening #] by [application deadline date] to:

Brian W. Baetz, PhD, PEng, FCSCE, FCAE
Director, W. Booth School of Engineering Practice and Technology
baetz@mcmaster.ca

- letter of application demonstrating how the candidate meets the selection criteria outlined above and describing, if applicable, the impact that career interruptions may have had on research productivity (1-2 pages)
- curriculum vitae
- statement on teaching interests and philosophy (including evidence of teaching effectiveness)
- statement on contributions to inclusive excellence in teaching, and service, including a description of how you will advance the University's commitment to building an inclusive community and to fostering a culture which embraces and promotes the rich diversity of the campus community (2 pages)
- the name, title, phone number, and email address for at least three (3) referees who are not in a conflict of interest. Letters of reference are not required at the time of application. The School will request letters of recommendation from referees at later stages of the search process.

Review of applications will continue until the position is filled. The effective date of appointment is negotiable, but July 1, 2024 is preferred. All applicants will receive an online confirmation of receipt of their application; however, only short-listed applicants will be contacted for interviews. Direct any inquiries about this position to mvaz@mcmaster.ca.

All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. To comply with the Government of Canada's reporting requirements, the University gathers information about applicants' status as either a permanent resident of Canada or Canadian citizens. Applicants need not identify their country of origin or current citizenship; however, all applications must include one of the following statements:

Yes, I am a citizen or permanent resident of Canada
No, I am not a citizen or permanent resident of Canada

The University is committed to providing and maintaining healthy and safe working and learning environments for all employees, students, volunteers, and visitors. The University's Vaccination Policy-COVID-19 Requirements for Employees and Students (the "Vaccination Policy"), requires all McMaster community members, including employees, accessing a McMaster campus or facility in person to be fully vaccinated or to have received an exemption from the University for a valid human rights ground. While the Policy will be currently paused, this Policy may resume quickly and on short notice, as informed by public health advice and direction. As a result, failure to achieve and maintain fully vaccinated status or an approved human rights-based exemption may result in termination of employment. This is a term and

condition of employment. The University will continue to follow the guidance of public health organizations to define fully vaccinated status. Further information is available at the following link: https://covid19.mcmaster.ca/vaccination-mandate/. More information on the University's Health and Safety framework is available online at https://hr.mcmaster.ca/resources/covid19/.

Questions regarding the above requirements or any accommodation requests through the recruitment process can be directed to hr.mcmaster@mcmaster.ca.