Undergraduate Student Research Opportunities – 2025

To assist undergraduate students in finding faculty supervisors for summer research, the following Engineering faculty have submitted their research positions available for undergraduate students. **Please note that this is not an exhaustive list.** Please contact faculty members directly to inquire as to their availability to support undergraduate summer research students.

Professor Name	**Mohamad Moosavi**
Number of Undergraduate Positions Available for Summer 2025	2-3
Department/Division	Chemical Engineering & Applied Chemistry (ChemE)
Name of Research Area/Lab	Artificial Intelligence for Chemical Science
Description of Lab	AI for accelerated materials discovery applied to sustainability applications, such as battery thermal cooling and carbon capture.
Research Location	On-Site
How to Apply	Email directly (mohamad.moosavi@utoronto.ca) with the following items: • Cover Letter • Resume
Deadline to Apply	**February 28, 2025**
Additional Comments	Students should demonstrate interest in programming, mathematical modelling, and AI.

Professor Name	**Rana Ahmed Barghout**
Number of Undergraduate Positions Available for Summer 2025	2
Department/Division	Chemical Engineering & Applied Chemistry (ChemE)
Name of Research Area/Lab	Laboratory for Metabolic Systems Engineering
Description of Lab	More information can be found on our website: https://lmse.utoronto.ca/
Research Location	Hybrid
How to Apply	Email directly (rana.barghout@mail.utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**March 1, 2025**
Additional Comments	N/A

Professor Name	**Kei Masani**
Number of Undergraduate Positions Available for Summer 2025	1
Department/Division	Institute of Biomedical Engineering (BME)
Name of Research Area/Lab	Rehabilitation Engineering, Human Biomechanics, Human Neurophysiology
Description of Lab	Our research aims to improve the mobility of people who experience neurological impairment. Our approach to investigating human movement is undertaken from a neuromechanical perspective, i.e. the union of neurophysiology and physics. We focus specifically on developing accurate assessments and therapeutic tools using functional electrical stimulation for standing, walking and adapted exercise. https://www.masl.ca
Research Location	Hybrid
How to Apply	Email directly (k.masani@utoronto.ca) with the following items: • Unofficial Transcript • Resume
Deadline to Apply	**March 1, 2025**
Additional Comments	N/A

Professor Name	**Kevin Golovin**
Number of Undergraduate Positions Available for Summer 2025	2
Department/Division	Mechanical & Industrial Engineering (MIE)
Name of Research Area/Lab	Durable Repellent Engineered Advanced Materials (DREAM) Lab
Description of Lab	The DREAM Lab explores novel coatings, surface interactions, and surface modification strategies to make positive impacts on the world. There are several projects open to undergraduates this year. One project involves the use of robotics in the development of anti-fingerprint coatings for smartphone screens. Another project involves exploring coatings for fabrics to minimize or eliminate the release of microplastic fibres during laundering. A third project is investigating how oils can be chemically attached to surfaces, and how the chemistry of the surface affects the amount of oil and the resultant liquid repellency. Typically the number of available spots is limited to students who have secured a fellowship supporting their summer research, such as those from UTEA, NSERC, CPE, or the MIE Department.
Research Location	On-Site
How to Apply	Email directly (kevin.golovin@utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**March 31, 2025**
Additional Comments	N/A

Professor Name	**Trevor Carey**
Number of Undergraduate Positions Available for Summer 2025	1
Department/Division	Civil & Mineral Engineering (CivMin)
Name of Research Area/Lab	Geotechnical Earthquake Engineering
Description of Lab	Engaged in a combination of in-person lab work and computer-based tasks. Laboratory work involved preparing soil samples for engineering tests simulating earthquake loading. Computer work focused on processing high-speed camera images to track displacements during soil liquefaction caused by earthquake loading. Gained skills in Python scripting, geotechnical laboratory operations and testing procedures, and an understanding of the research process.
Research Location	Hybrid
How to Apply	Email directly (trevor.carey@utoronto.ca) with the following items: • Unofficial Transcript • Resume
Deadline to Apply	**May 1, 2025**
Additional Comments	N/A

Professor Name	**Ali Dolatabadi**
Number of Undergraduate Positions Available for Summer 2025	2
Department/Division	Mechanical & Industrial Engineering (MIE)
Name of Research Area/Lab	Mind Lab
Description of Lab	Mind Lab: https://dolatabadi.mie.utoronto.ca
Research Location	On-Site
How to Apply	Email directly (ali.dolatabadi@utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**May 1, 2025**
Additional Comments	Minimum GPA Requirement: 3.3

Professor Name	**Weilai Yu**
Number of Undergraduate Positions Available for Summer 2025	1-2
Department/Division	Chemical Engineering & Applied Chemistry (ChemE)
Name of Research Area/Lab	LOGICS for Energy: https://www.logics-utoronto.org/
Description of Lab	Dr. Yu's research program at UofToronto will integrate fundamental electrochemistry, surface science, and functional material-interface design to innovate next-generation technologies for sustainable chemical and energy conversion. Researchers will work on projects that push the boundaries of current knowledge in the following areas: Interphase Optimization of Next-Generation Battery Materials: Developing stable and high-performance solid-electrolyte interphases (SEI) and cathode-electrolyte interphases (CEI) for next-generation batteries. Electrocatalytic Molecular Manufacturing for Circular Economy: Exploring new electrocatalytic processes for sustainable and efficient chemical manufacturing that supports a circular economy. Solar-driven Chemical Reforming for Environmental Sustainability: Utilizing solar energy to drive chemical reforming processes aimed at achieving environmental sustainability through clean energy. High-throughput and Autonomous Experimentation Accelerated by AI: Harnessing AI-driven autonomous experimentation platforms to rapidly discover and optimize new materials, dramatically reducing the time required for innovation.
Research Location	Hybrid
How to Apply	Email directly (weilai.yu@utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**March 31, 2025**
Additional Comments	N/A

Professor Name	**Chi-Guhn Lee**
Number of Undergraduate Positions Available for Summer 2025	3
Department/Division	Mechanical & Industrial Engineering (MIE)
Name of Research Area/Lab	DoRL
Description of Lab	We do research in a wide range of machine learning and reinforcement learning and apply the tools to supply chain, manufacturing, and others.
Research Location	Hybrid
How to Apply	Email directly (chiguhn.lee@utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**March 31, 2025**
Additional Comments	Minimum GPA Requirement: 3.3

Professor Name	**Daman Panesar**
Number of Undergraduate Positions Available for Summer 2025	2
Department/Division	Civil & Mineral Engineering (CivMin)
Name of Research Area/Lab	Concrete materials - durability and sustainability climate effects on infrastructure, code provisions for low carbon,
Description of Lab	More information can be found on our website: https://civmin.utoronto.ca/home/about-us/directory/professors/daman-panesar/
Research Location	On-site
How to Apply	Email directly (d.panesar@utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**March 7, 2025**
Additional Comments	N/A

Professor Name	**Ravi Adve**
Number of Undergraduate Positions Available for Summer 2025	2
Department/Division	Electrical & Computer Engineering (ECE)
Name of Research Area/Lab	…
Description of Lab	We are interested in investigating multiple questions in new wireless network architectures. Students interested in communications (broadly), applications of machine learning in wireless comm., the intersection of wireless comm. and signal processing should email me at rsadve@ece.utoronto.ca
Research Location	On-site
How to Apply	Email directly (raviraj.adve@utoronto.ca) with the following items: • Unofficial Transcript • Statement of Interest • Resume
Deadline to Apply	**February 28, 2025**
Additional Comments	N/A

Professor Name	**Yunshun Zhong**
Number of Undergraduate Positions Available for Summer 2025	2
Department/Division	Civil & Mineral Engineering (CivMin)
Name of Research Area/Lab	Centre for Information Systems in Infrastructure & Construction (i2c)
Description of Lab	We are seeking a talented student with experience in front-end development and UI/UX design to create a graphical user interface (GUI) for the AI-based shoreline recognition system. The GUI will allow TRCA staff to upload orthophotos, apply the trained machine learning model, and visualize the results in an intuitive and interactive manner. **Key Responsibilities** 1. Interface Development: Design and implement a web-based or desktop application to enable users to run the machine learning model and visualize outputs. 2. User Experience: Ensure the interface is intuitive, user-friendly, and accessible for non-technical users at TRCA. 3. Integration: Connect the GUI with the machine learning backend, ensuring smooth data flow and model execution. 4. Visualization: Develop tools for rendering channel bank delineations on aerial images, including overlays and interactive map features. Performance Optimization: Ensure the system is efficient, responsive, and capable of handling large images. **Qualifications for Both Roles:** Currently enrolled in or a recent graduate of a Bachelor's or Master's program in Computer Science, Software Engineering, Geomatics, or a related field. **Timeline** The expected timeframe to complete this project is 3 months from the time of commencement. Project start date would preferably in the summer of 2025.
Research Location	Hybrid
How to Apply	Email directly (yunshun.zhong@mail.utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**April 15, 2025**
Additional Comments	Minimum GPA Requirement: 3.0

Professor Name	**Shurui Zhou**
Number of Undergraduate Positions Available for Summer 2025	1-2
Department/Division	Electrical & Computer Engineering (ECE)
Name of Research Area/Lab	FORCOLAB
Description of Lab	More information can be found on our website: https://www.eecg.utoronto.ca/~shuruiz/forcolab/index.html#
Research Location	Hybrid
How to Apply	Email directly (shurui.zhou@utoronto.ca) with the following items: • Unofficial Transcript • Cover Letter • Resume
Deadline to Apply	**March 31, 2025**
Additional Comments	In the cover letter, please justify why you are interested in working in FORCOLAB.