



Department of Electrical and Computer Engineering
Term Adjunct Position
Academic Year 2020-2021

Posting Date: 27 February 2020
Closing Date: 20 March 2020

The Department of Electrical and Computer Engineering at Queen's University requests applications from suitable qualified candidates interested in teaching the following undergraduate course in the 2018-19 academic session.

Fall Term Course: September 1, 2020 – December 31, 2020

Anticipated course enrolment: 100

Course Description

ELEC 474- Machine Vision

F 3-0.75-0.5 4.25

Description

Computer Vision deals with the automated extraction of information from image and video data. At the low level, techniques such as histogram processing, spatial and frequency-domain filtering, motion segmentation edge extraction, and corner operators are applied as a first step. Follow this, higher level techniques such as geometric primitive extraction, and ultimately object recognition (both model-based and appearance-based) can be applied to determine the identity and accurate location of objects in images. Underlying all of these methods are underlying mathematical concepts such as Principle Component Analysis, Robust Statistics (e.g. RANSAC), and Singular Value Decomposition, as well as optimization methods, such as can be applied to determine least squares solutions to transformations following the Correspondence Problem. Applications of Computer Vision are explored in industrial settings such as automated inspection and recognition. The mathematical basis of stereovision and range vision are presented.

Qualifications:

Minimum of a M.A.Sc. in Engineering or a related field, or a BAsC in Engineering with extensive practical experience in engineering communications. Previous teaching experience at the University level will be preferred. Candidates should have excellent communication and presentation skills. Preference will be given to candidates who are registered as professional engineers in the province of Ontario.

Course Syllabus can be found at: <https://www.ece.queensu.ca/undergraduate/courses/elec-474.html>

The above advertised course will be taught on campus. Fall term classes begin 10 September 2020.

Queen's University is committed to employment equity and diversity in the workplace and welcomes applications from women, visible minorities, aboriginal people, persons with disabilities, and persons of any sexual orientation or gender identity. All qualified candidates are encouraged to apply; however, Canadians and permanent residents of Canada will be given priority. Academic staff at Queen's University is governed by a collective agreement between QUFA, [QUFA](#) and Queen's University.

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation during the interview process, please contact Mary Gillespie, mary.gillespie@queensu.ca.

To comply with Federal laws, the University is obliged to gather statistical information about how many applicants for each job vacancy are Canadian citizens/ permanent residents of Canada. Applicants need not identify their country of origin or citizenship, however, all applications must include one of the following statements: I am a Canadian citizen/permanent resident of Canada; OR, I am not a Canadian citizen/permanent resident of Canada. Applications that do not include this information will be deemed incomplete.

Applications should include a complete and current curriculum vitae, a statement of teaching experience, the names and contact details of two referees who may be contacted, and any relevant other materials the candidate wishes to submit for consideration. Applications can be submitted to the ECE Appointments Committee at the address below, or by email to Mary Gillespie at mary.gillespie@queensu.ca. Applications should be received no later than March 20, 2020.

Electrical and Computer Engineering Appointments Committee
C/o Mary Gillespie, Administrative Assistant
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