

2024/2025 WORK STUDY PROGRAM

JOB POSTING

JOB TITLE: CIVE 1 - Integrating ChatGPT into Geotechnical Design and Modeling

DEPARTMENT NAME: Civil Engineering

CONTACT NAME: Cheng Lin

JOB DESCRIPTION:

ChatGPT has recently emerged as a representative of Large Language Models (LLMs) that have brought evolutionary changes to our society, and the effectiveness of ChatGPT in various applications has been increasingly reported. This study aims to explore the potential of employing ChatGPT in the field of geotechnical engineering. A reasoning and action (ReACT) framework that integrating GPT's reasoning and linguistic capabilities with a suite of high-level function libraries (geotechnical modeling tools) is utilized to develop a GPT-enabled engineering workflow. A ChatGPT API will be developed to implement this workflow for the design and modeling of roads involving novel geosynthetics: e.g., instruct ChatGPT to read soil report and traffic report, extract relevant input parameters, specify them to in-house geotechnical modeling tools (e.g., for pavement design with geosynthetics), and generate design output. The framework developed here will provide valuable reference for the application of GPT in geotechnical engineering practice and research.

QUALIFICATIONS:

Senior undergraduate students from computer engineering/science or students from civil engineering who are good at computer programming.

JOB LOCATION ON-CAMPUS: E-Hut 102

WORK STUDY WAGE: \$18.50/hour (including 4% vacation pay)

DEPARTMENT TOP UP: \$11.00/hour (plus 4% vacation pay)

HOURS AVAILABLE: 200 hours

HOW TO APPLY: Send Cover Letter, Resume, and copy of Work Study eligibility email from SAFA to:

Dr. Cheng Lin
University of Victoria
Department of Civil Engineering
PO Box 1700 STN CSC
Victoria, BC V8W 2Y2
Or
Via Email to chenglin918@uvic.ca

APPLICANTS MUST BE ELIGIBLE TO PARTICIPATE IN THE WORK STUDY PROGRAM
For details go to: <http://www.uvic.ca/registrar/safa/work-study/index.php>