Active learning tool development for probability & statistics

Research area: Engineering education

Active learning is an effective way to engage students in the classroom with the learning objectives of the day. Specifically in the probability and statistics domain, there's an opportunity to collect empirical data from the students to illustrate distributions and naturally occurring phenomena.

In this project, participants will be tasked with developing a web application that collects data from individuals (students), and visualizes them on the instructor's computer for salient learning modules. Each learning module will collect different types of data to illustrate a new probability concept, such as random variables, the convergence of binomial distribution to the normal distribution, sampling distributions, and so on.

This project is open to MEng students. Teams of two are welcome, but not required.

Required skills:

- Ability to work independently
- Demonstrated independent programming skills and web app development.

Preferred skills:

- Working knowledge of probability and statistics.

Interested applicants should send an email to jy.lam@utoronto.ca with the following

- Resume/CV & unofficial transcript
- One or two-paragraph statement of interest
- Sample of work: link to online portfolio, Shiny app, Github, etc.