CMPT 882 - G100 Special Topics in Artificial Intelligence

Instructor(s): Mo Chen

SFU Burnaby

Calendar Objective/Description:
None

Instructor's Objectives:
This course provides an overview of robotic planning and decision making algorithms, with a focus on mobile robots. Following a brief introduction to robotic systems, the course will cover popular computational methods and algorithms for solving planning and decision making problems. An emphasis will be placed on using state-of-the-art computational tools in practical settings. In addition, students will gain exposure to results and challenges in recent research. Topics include modeling of robotic systems, motion planning, optimal control, optimization, robotic safety, machine learning, robotic perception, and the robotic operating system (ROS). Applications include unmanned aerial vehicles, self-driving cars, and household robots.

Prerequisites:
None

Topics:
  - Motion planning
  - Optimization
  - Robotic safety
  - Robotic perception
  - Robotic operating system (ROS)

Grading:
To be discussed the first week of classes

Academic Honesty Statement::
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).