CMPT 880 - G100 Special Topics in Computing Science

Instructor(s): Oliver Schulte

SFU Burnaby

Calendar Objective/Description:
This course aims to give students experience to emerging important areas of computing science.

Instructor's Objectives:
The course is an introduction to learning deep neural networks (deep learning for short). This is an advanced topic in machine learning, with application to classification problems, computer vision, and natural language processing.

Course Objectives:

- Learn the main theoretical ideas behind deep learning and unsupervised feature learning.
- Ability to read research papers in this area.
- Become familiar with a set of computational tools for deep learning.
- The course project should evaluate one or more deep learning tools on a realistic task.

Prerequisite: *You must have taken a graduate-level introduction to machine learning, CMPT 726 or equivalent.* On-line courses like coursera are not enough. I will give a background quiz to assess your preparedness and may ask for documentation of passing a previous course.

The course is a seminar course, meaning that students are expected to give presentations.

You can see the webpage for previous versions of the course on courses.cs.sfu.ca.

Prerequisites:
instructor discretion.

Topics:
- Feature Discovery
- Deep Learning
- Neural Nets
- Unsupervised Learning
- Learning with Sequence Data

Grading:
Exercises/Quizzes: 5%. Homeworks/Assignments: 15% Project: 60% (breakdown: • Project Outline Presentation: 15%. • Final Project, Project Presentation: 45%).
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).