CMPT 884 - G100 Special Topics in Database Systems

Instructor(s): Martin Ester, Maxwell Libbrecht

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

Instructor's Objectives:
Prerequisites
CMPT 726 Machine Learning or equivalent

This course will introduce students to state-of-the-art machine learning methods for the life sciences. Prerequisite is familiarity with the basics of data mining/machine learning. This will be a seminar course. The instructors will present tutorial-style introductions to key topics and students will present selected research papers and conduct small research projects.

An emphasis of the course will be on building communication skills: writing and giving presentations. General guidelines and strategies for writing clearly and giving good talks will be given, and students will receive feedback on their presentations and project reports from the instructor and other students.

Applications:
o Biomarker discovery
o Discovery of causal genes
o Patient stratification
o Drug-target interaction prediction
o Transcription factor binding: motifs and peak calling
o Epigenomics and genome annotation
o Modeling 3D genome conformation

Prerequisites:
CMPT 726 Machine Learning or equivalent

Grading:
Will be based on the presentation of research papers and on the course project report. There will be no exam. Details to be discussed in the first class.

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).