CMPT 884 - G100 Special Topics in Database Systems

**Instructor(s):** Martin Ester  
**SFU Burnaby**

**Calendar Objective/Description:**  
None

**Instructor's Objectives:**

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. The course will be suitable for computer science students with some background in the life sciences and life science students with some background in computational (in particular machine learning) methods. This will be a seminar course, where students will present selected research papers and conduct small research projects (ideally in teams consisting of computer science and life science students).

**Prerequisites:**

None

**Topics:**

- Probabilistic graphical models
- Deep neural networks
- Protein function prediction
- Biomarker discovery
- Discovery of causal genes
- Patient stratification
- Drug-target interaction prediction

**Grading:**

Will be based on the presentation of research papers and on the course project report, possibly a course project presentation. 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).