CMPT 318 - D100 Special Topics in Computing Science

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Calendar Objective/Description:
Special topics in computing science at the 300 level. Topics that are of current interest or are not covered in regular curriculum will be offered from time to time depending on availability of faculty and student interest.

Instructor's Objectives:
This course introduces cybersecurity concepts and discusses cyber intelligence and threat analysis methods in the context of Big Data analytics. Cyber situational analysis based on probabilistic models will play a central role. This includes using the R language and software environment for statistical computing.

Prerequisites:
CMPT 225, STAT 270 and MATH 232 (or 240)

Topics:
- Probability theory
- Time series analysis and anomaly detection
- Hidden Markov models
- Cyber situational awareness
- Critical infrastructure protection
- Cyber risk assessment and management
- Cybercrime in financial sectors

Grading:
The course has a midterm examination (worth 30% of the total grade) and a course project organized as group project with presentation in class (worth 40%). There will be four homework assignments which won’t be collected and graded. Instead, there will be four quizzes in class (worth 20%). Class participation accounts for 10% of the total grade.

Recommended Books:

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).