STA 414/2104, Spring 2018: Statistical Methods for Machine Learning and Data Mining

Tentative Lecture Schedule

- Lecture 1 -- Machine Learning Introduction:
  Example reading: Bishop, Chapter 1: sec. 1.1 - 1.3
- Lecture 2 -- Probability Distributions:
  Example reading: Bishop, Chapter 2: sec. 2.1 - 2.4
- Lecture 3 -- Regression
  Example reading: Bishop, Chapter 1: sec. 1.5 . Chapter 3: sec. 3.1 - 3.2
- Lecture 4 -- Bayesian inference, and kNN
  Example reading: Bishop, Chapter 3: sec. 3.3 - 3.5
- Lecture 5 -- Classification
  Example reading: Bishop, Chapter 4: sec. 4.1 - 4.5
- Lecture 6 -- Mixture Models
  Example reading: Bishop, Chapter 9: sec. 9.1 - 9.3.
- Lecture 7 -- Latent Variable Models, Neural Networks
  Example reading: Bishop, Chapter 12: sec. 12.1 - 12.2, 12.4
- Lecture 8 – Sampling and Monte Carlo methods
- Lecture 9 – Graphical Models, and Modelling Sequential Data
  Example reading: Bishop, Chapter 13: sec. 13.1 - 13.2.
- Lecture 10 – Variational Inference (if time permits)
  Example reading: https://arxiv.org/pdf/1601.00670.pdf
- Lecture 11 -- Gaussian Processes
  Example reading: Bishop, Chapter 6: sec. 6.4

Tentative Test Schedule

- The midterm is *tentatively* set for Monday 12 February, 2:15-4:15 pm, in rooms to be announced
- The final exam will be in April