PHD 1998L

Advanced Data Science Analytic Methods

Spring, 2019 (This course can be taken as a course for minor and breadth)
RAS (E527)
Friday 9:00am-11:50am

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Course Outline

Jan 17    Deep Neural Networks
Jan 24    Deep Residual Neural Networks
Jan 31    Dynamics of Output of Neural Networks
Feb 7     Analytic Solutions to Deep Wide Neural Networks
Feb 14    Gaussian Processes and the output of an infinitely wide neural network
Feb 21    High dimensional data reduction
Feb 28    Variational Autoencoders
March 6    Graphic Variational Autoencoders
March 8    Midterm
March 20   Variational inference
March 27   Generative Adversarial Networks (GANs)
April 3    Wasserstein and Conditional GANs
April 10   Applications of GANs
April 17   Deep Learning for Counterfactual Inference and Treatment Estimation
April 24   Deep Learning Counterfactual Representations
May 1     Confounding
May 8.    Final Exam

Score:

40% home work + 30% midterm exam + 30% final exam