Awesome Graduate Courses at CMU

Yan Pan

A note for undergraduate students who would like to take some advanced graduate courses. Mostly in machine learning or CS theory due to my personal interest.

Disclaimer: I didn't take most of them and I suggest thinking twice before signing up any of them as an undergraduate student due to their difficulty and workload. Take them wisely. However, it is encouraged to audit them.

- 10-708 Probabilistic Graphical Models by Eric Xing (Offered every Spring)
- 10-716 Advanced Machine Learning: Theory and Methods by Pradeep Ravikumar (Offered every Spring)
- 10-725 Convex Optimization by Yuanzhi Li (Offered every Fall/Spring)
- 11-757 Neural Networks for NLP by Graham Neubig (Offered every Spring)
- 11-777 Multimodal Machine Learning by Louis-Philippe Morency (Offered every Fall/Spring)
- 15-751 TCS Toolkits by Ryan O'Donnell (Last offered S20)
- 15-850 Advanced Algorithms by Anumpam Gupta (Last offered F20)
- 15-880 Advanced Cognitive and Computational Science by Lenore Blum and Manuel Blum (Last offered S19)
- 15-884 Machine Learning Systems by Tianqi Chen (Last offered S21)
- 15-859B Machine Learning Theory by Avrim Blum (Last offered S14)
- 15-859BB Quantum Computation and Quantum Information by Ryan O'Donnell (Last offered F18)
- 15-859CC Algorithms for Big Data by David Woodruff (Offered every Fall)
- 15-859N Spectral Graph Theory by Gary Miller (Offered every Spring)
- 16-726 Learning-based Image Synthesis by Jun-Yan Zhu (Last offered S21)
- 16-824 Visual Learning and Recognition by Abhinav Gupta (Offered every Spring)
- 17-737 Artificial Intelligence Methods for Social Good by Fei Fang (Offered every Spring)

- 17-759 Advanced Topics in Machine Learning and Game Theory by Fei Fang (Last offered F20)
- 17-880 Algorithms for Private Data Analysis by Steven Wu (Last offered S21)
- 18-667 Algorithms for Large-scale Distributed Machine Learning and Optimization by Gauri Joshi (Last offered S21)