Spring 2018 Deep Learning Workshop Exchange Program Syllabus

Website: https://www.ece.ufl.edu/news/2018-deep-learning-workshop

COURSE INTRODUCTION

The intense introduction to Deep Learning theory and practice lasts for three weeks, from Jan. 21 to Feb. 11. Deep Learning is currently the most popular and most powerful machine learning techniques. The class will include Python-based programing assignments and a final project. Overall the course will meet the requirements for hands-on competency in the practice of advanced Computer Science/Electrical Engineering skills and academic writing courses in the engineering field.

Professor 1: Harris, John Gregory

Research Interests: Bio-inspired computation, speech/natural language processing

Professor introduction: Dr. John G. Harris is a professor and Department Chair in the Electrical and Computer Engineering Dept at the University of Florida. He is interested in developing biologically inspired algorithms for sensory and neural processing that can be implemented in analog VLSI or DSP systems. He and his students have started the Hybrid Computation Group within the Computational Neural Engineering Laboratory (CNEL) at the University of Florida. He is also a member of the UF Biomedical Engineering Program.

Professor 2: Li, Xiaolin Andy

Primary Research Area: Computer Engineering

Research Interests: Cloud Computing, Big Data, Deep Learning, Intelligent Platform, HPC, SDN; IoT, Mobile Social Networks, LBS; Security & Privacy

Honors and Recognition: NSF CAREER Award, Internet2 Innovative Application Award, NSF I-Corps Top Team Award, 4 Best Papers

Daily Schedule

Week 1(Jan 21-Jan27)

Time & Topic		Monday Jan 21	Tuesday Jan 22	Wednesday Jan 23	Thursday Jan 24	Friday Jan 25
9:00 AM-10:00 AM	Lecture A	How good is your model?	Building a logistic regression model	Hyperparameter tuning	Hyperparameter tuning with RadomizedSearchCV	
10:00 AM-10:30 AM	Q&A/Break					
10:30 AM-11:30 AM	Lecture B	Metrics for classification	AUC computation	Hyperparameter tuning with GridSearchCV	Logistic regression and the ROC curve	Office hour
11:30 AM-12:00 PM	Q&A/Break					
12:00 PM-13:30 PM	Lunch					
13:30 PM-16:00 PM	Supervisor Lab Secession					

Daily Schedule

Week 2(Jan 28-Feb 3)

Time & Topic		Monday Jan 28	Tuesday Jan 29	Wednesday Jan 30	Thursday Jan 31	Friday Feb 1
9:00 AM-10:00 AM	Lecture A	Plotting an ROC curve	Precision-recall Curve	Area under the ROC curve	Hold-out set reasoning	
10:00 AM-10:30 AM	Q&A/Break					
10:30 AM-11:30 AM	Lecture B	Plotting an ROC curve	Precision-recall Curve	Area under the ROC curve	Hold-out set reasoning	Office hour
11:30 AM-12:00 PM	Q&A/Break					
12:00 PM-13:30 PM	Lunch					
13:30 PM-16:00 PM	Supervisor Lab Secession					

Daily Schedule

Week 3(Feb 4-Feb 10)

Time & Topic		Monday Feb 4	Tuesday Feb 5	Wednesday Feb 6	Thursday Feb 7	Friday Feb 8
9:00 AM-10:00 AM	Lecture A	Hold-out set in practice I: Classification	Hold-out set in practice II: Regression	Hold-out set for final evaluation	Final Presentation	
10:00 AM-10:30 AM	Q&A/Break					
10:30 AM-11:30 AM	Lecture B	Hold-out set in practice I: Classification	Hold-out set in practice II: Regression	Hold-out set for final evaluation	Final Presentation	Office hour
11:30 AM-12:00 PM	Q&A/Break					
12:00 PM-13:30 PM	Lunch					
13:30 PM-16:00 PM	Supervisor Lab Secession					

Homework: once a week
Quiz: second week, third week
Literal review: first week
Proposal: second week
Final presentation: Feb 07, 2018