Jonathan Pedoeem

39 Ferris Drive, West Orange NJ 07052 • (201) 563-0947 • pedoeem@cooper.edu • jped.github.io • github.com/jped

Education

The Cooper Union, New York City, NY Electrical Engineering with Math minor • GPA: 3.70 • Expected Grad.: June 2020 Relevant Courses: Deep Learning • Digital Signal Processing • Data Structures and Algorithms • Natural Language Processing • Signals and Systems Processing

Work Experience

SWE Intern at Facebook AI Research (FAIR)

May 2019 - August 2019

- Developed multi task learning framework on top of <u>fairseq</u>
- Built in support to use Bert Embeddings and added the ability to train concurrently on over 20 NLP tasks

Data Strategy Technical Intern at Clarifai

September 2018 - December 2018

- Build tools and models needed by data strategy team for customers
- Communicate and collaborate technical challenges with product and applied machine learning teams

Co-Founder and Lead Developer for the Morning Munch LLC (website deprecated)

June 2017- May 2019

- Built a content aggregation app that combines many different feeds into one place
- Built the website, email service, and backend api, used a MEAN Stack

Lead Web Developer for Four Questions of Judaism http://fourquestionsofjudaism.com/

January 2016- Present

- Single handedly built website with python on google app engine for users to discuss essays on different philosophical topics
- Weekly emails have 800 subscribers and growing

Software Engineering Intern at Pagevamp

Summers 2014, 2015

- Built a web scraper and mySQL database for their Facebook page directory
- Built white label license interface Pagevamp Blog: The Comment that Changed it all

Machine Learning Experience

FontBakers Research Group

January 2019 - Present

- Research group at the Cooper Union dedicated to algorithmically generating fonts in Bezier space
- Currently testing different GAN architectures to accomplish this task

Computational Graphs for Machine Learning (Deep Learning) Course

September 2018 - December 2018

- Intensive course focused on building neural networks and reading contemporary research papers
- Projects include: MNIST classifier, CIFAR10 classifier, CIFAR100 classifier, AG news topic classifier, reproduction of *Measuring the Intrinsic Dimension of Objective Landscapes*. Projects are on Github
- Multimodal Embeddings for Polysemous Word Representations, final project.

Data Mining Research Experience (REU) at UNCW

May 2018 - July 2018

- Developed Convolutional Neural Network Architecture YOLO-LITE, an object detection algorithm that can run real-time on non-GPU computers and is 3.8x faster than state-of-the-art. Funded by NSF. Web demo: https://reu2018dl.github.io/
- Trained and Built Projects using R in techniques such as Linear and Logistic Regression, Linear Discriminant Analysis (LDA), Kernel-LDA, Quadratic Discriminant Analysis, K-Nearest-Neighbors, Leave One Out Cross Validation, K-Folds Cross Validation, Bootstrapping method, Decision Trees, Classification Trees, Bagging, Random Forest, Support Vector Machines, Principal Component Analysis (PCA), and KPCA (Projects can be seen here)

Natural Language Processing Course

January 2018 - May 2018

- Class focused on traditional NLP techniques as covered in Speech and Language Processing by Jurafsky 2nd Edition
- Article Topic categorization project
- Spell checker and corrector project

Research Data Analyst

June 2017- December 2017

- Analyzed 10 weeks of cellphone data collected at Port Authority Bus Terminal with Professor Shlayan at The Cooper Union
- Worked on devising a model to predict arrival and exit rates in the terminal
- Worked on building an MM1 Jackson queueing network that will model user movement

Publications

R. Huang, J. Pedoeem and C. Chen, "YOLO-LITE: A Real-Time Object Detection Algorithm Optimized for Non-GPU Computers," 2018 IEEE International Conference on Big Data, Seattle, WA, USA, 2018, pp. 2503-2510. https://ieeexplore.ieee.org/document/8621865

Skills

Highly Proficient

Python, C, MATLAB, MEAN stack, PyTorch, git, bash

Proficient

Keras, Tensorflow, C++, MySQL, R

Familiar

Docker, Kubernetes