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 fairseq
- 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