Edgar Xi

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EDUCATION

Carnegie Mellon University, *Pittsburgh, PA* Expected May 2019

B.S. in Statistics, Machine Learning

Dean's List (4.0 GPA, Fall 2017)

EXPERIENCE

Squarespace, *New York, NY* Summer 2018

Software Engineering Intern – Machine Learning

- Implemented, optimized, and deployed state of the art saliency mapping network with Tensorflow
- Extended internal streaming ETL library for rapid model prototyping and retraining
- Configured and deployed microservices for ML models on Kubernetes clusters along with extensive logging and load-testing in Prometheus and Locust

Percepsense, *Pittsburgh, PA* 2016- 2018

Machine Learning Engineer

- Automated road quality assessment using crowdsourced vehicular telematics data
- Conducted extensive feature engineering & hyperparameter tuning across time-series models
- Negotiated contracts with city of Detroit and large Japanese automotive manufacturer

Curb.ai, *Pittsburgh, PA* Summer 2017

Data Scientist

- Automated classification of home image data with convolutional neural networks
- 20x speedup over human subject classification with comparable F-1 score

Carnegie Mellon University, *Pittsburgh, PA* October 2016 – Present

Research Assistant

- Interpretable and Robust Machine Learning (Prof Zico Kolter)
- Imaging and Genetics Modeling using Deep Graphical Models with a focus on model interpretability
  - Guided Backpropogation, Class-Activation Mapping, DeepDream, Saliency Maps
- Radiologist-Level Pneumonia Detection on Chest X-Rays with Deep Learning
  - DenseNet-121/169/201, ResNet-18/34/101, SqueezeNet

PUBLICATIONS

- **Xi, E.**, Bing, S., Jin, Y. *"Capsule Network Performance on Complex Data"* accepted to IEEE **arXiv:1712.03480** 10 Dec 2017
- Bhatt, U., **Xi, E.**, Mani, S., Kolter, J. *"Intelligent Pothole Detection"* in DSSG@UChicago, 10 Oct 2017 **arXiv:1710.02595**
- Lee, M., **Xi, E.,** Jin, Y., *"Optimal Control in StarCraft II with Asynchronous RL"* **(Preprint)** 8 May 2018
- **Xi, E.,** Bhatt, U. "Mining Urban Systems for Data Analysis" **(Preprint)** submitted to NIPS workshop on mobile computing 14 Sep 2018

TEACHING

TA: Graduate Introduction to Machine Learning (10-601) Fall 2018

- Bayesian networks, decision tree learning, support vector machines, statistical learning methods, unsupervised learning and reinforcement learning

TA: Practical Data Science (15-388) Spring 2018

- Data processing & analysis, machine learning (regression, classification, unsupervised learning)

COURSEWORK

- 10-707 Deep Learning (PHD)
- 10-701 Machine Learning (PHD)
- 15-122 Imperative Programming
- 15-388 Data Science (TA)
- 10-703 Deep Reinforcement Learning (PHD)
- 36-402 Advanced Data Analysis
- 36-401 Modern Regression
- 15-386 Neural Computation

SKILLS

- Python, C/C++,R, Julia, Java, Matlab || Keras, Tensorflow, Pandas, Scikit-Learn || Unix, Django, MySQL, AWS, Docker, Kubernetes ||