Kurtis Evan David

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EDUCATION

UT AUSTIN
MS in Computer Science
Thesis Advisor: Dr. Qiang Liu
August 2020 | Austin, TX
GPA: 3.83

UT AUSTIN
BS in Computer Science
BS in Mathematics
May 2019 | Austin, TX
GPA: 3.92

COURSEWORK

GRADUATE
Combinatorics and Graph Theory
Convex Optimization
Deep Learning Seminar
Deep Probabilistic Modeling
Fair/Transparent Machine Learning
Natural Language Processing
Physical Simulation
Programming Languages

UNDERGRADUATE
Algorithms and Complexity
Artificial Intelligence
Competitive Programming
Computer Graphics
Computer Vision
Data Mining
Machine Learning
Mathematical Modeling
Mathematical Statistics
Neural Networks
Numerical Methods
Software Engineering

SKILLS

PROGRAMMING
Python • C++ • C • SQL
Matlab • Java • JavaScript
R • Pine Script

FRAMEWORKS
PyTorch • Caffe2 • TensorFlow
OpenGL • OpenCV

EXPERIENCE

HRL LABORATORIES | AI Research Intern
July 2020 - October 2020 | Malibu, CA
- Focused on adversarial attacks on convolutional neural networks
- Investigated novel defenses through pruning and Fourier analysis to target robust/nonrobust features

INSTAGRAM | Software Engineering Intern
May 2019 – August 2019 | San Francisco, CA
- Developed new Stories ranking models, balancing Direct and Stories metrics
- Implemented neural network pruning and tested the *Lottery Ticket Hypothesis* on production ranking models

FACEBOOK, INC. | Software Engineering Intern
May 2018 – Aug 2018 | Menlo Park, CA
- Developed new features for feed ads ranking model through big data pipelines
- Implemented new pooling layers in their neural network architectures using Caffe2

RESEARCH

UT STATISTICAL LEARNING AND AI | Research Assistant
March 2019 – August 2020 | Austin, TX
- Supervised by **Prof. Qiang Liu** and **Dr. Ruth Fong**, with a focus on interpretability and fairness of neural networks. Master's Thesis: *Debiasing Convolutional Neural Networks via Meta Orthogonalization.*
- Developed and implemented explainable neural architectures, saliency map conditioning, interpretability method analysis, monotonic neural networks.

SELECTED COURSE PROJECTS
Links Provided
- XNet: Towards Explainable Neural Networks
- Realistic Image Perturbation Distributions for Model Agnostic Anchors
- Bidirectional Decoding Schemes in Seq2Seq Learning for Machine Translation
- Kawaii Motion Capture to 3D Skeleton Animation

PUBLICATIONS

[1] **Kurtis Evan David**, Q. Liu, and R. Fong. Debiasing convolutional neural networks via meta orthogonalization. In *NeuRIPS Workshop on Algorithmic Fairness through the Lens of Causality and Interpretability*, 2020.

SERVICE

Spring 2020	Graduate TA for Data Science Laboratory
Fall 2019	Graduate TA for Data Science Principles
Spring 2019	Undergraduate TA for Data Science Principles
Spring 2018	Undergraduate TA for Computer Organization and Architecture