Akhil Jalan

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EDUCATION

University of California, Berkeley (Class of 2019) **GPA: 3.98/4.00**

B.A. Applied Mathematics (Concentration: Machine Learning), B.A. Computer Science
Regents' and Chancellor's Scholar, Class of 2019 (Awarded to top 2% of undergraduates)
Selected Coursework: Machine Learning (A), Deep Neural Networks (A), Probability (A+), Linear Algebra (A +), Algorithms (A), Stochastic Processes (A+), Real Analysis (A)

WORK EXPERIENCE

Data Science Intern Foster City, CA
Agari June 2018-Present

- Classified 10 million+ emails in Spark for account takeover attacks (ATO) detection
- Created 300-dimensional word embedding of email subject line to predict email phishing attacks
- Cross-validated machine learning models (logistic regression, random forest) to achieve 85% accuracy on subject line intent classifier

Undergraduate Researcher, DARPA Spectrum Collaboration Challenge Berkeley, CA
Professor A. Sahai February 2018-Present

- Implemented Recurrent, Bidirectional Long Short Term Memory (LSTM) neural networks to learn 100% accurate radio demodulation schemes for DARPA research challenge
- Identified theoretical limits of radio message recovery across 10 Signal-to-Noise Ratios (SNR) and 4 unique modulation schemes
- Studied 300+ hyperparameter configurations (learning rate, layer depth, activation functions, etc) for neural networks to solve the Witsenhausen problem in paired radio communication

Undergraduate Researcher, Facility Location Optimization Berkeley, CA
Professor G. Ranada February 2018-Present

- Compared fairness of 100+ unique hospital placement schemes in Alameda county
- Implemented linear and quadratic programming optimizers to solve for 11 unique fairness metrics in hospital facility allocation
- Quantified relative impact of hospital opening on 7 unique racial groups, 4 health insurance statuses, and 4 income levels using US Census Data

Software Engineering Intern Sunnyvale, CA
Hashcut May 2017-August 2017

- Proposed and implemented video contest automation algorithm using Javascript jQuery and HTML Bootstrap

PROJECTS

Machine Learning for Counterterrorism (Collaborative)

- Predicted success rates of terrorist attacks with 93% accuracy using random forest model
- Improved random forest, neural network prediction accuracies 1%, 5% via cross-validation
- Extracted salient features for successful attacks in random forest and regression models

Deep Neural Style Transfer via Cyclic Generative Adversarial Networks (Collaborative)

- Beat style/content scores of Google Magenta team by >2% fine-tuning neural style transfer
- Trained 16 million+ parameters via state-of-the-art Cyclic GANs research

TECHNICAL SKILLS

Languages: Python (most proficient), Julia, R, SQL, Java, MATLAB, Bash, Javascript, HTML5, LaTeX
Python Libraries: Tensorflow**,** Numpy**,** Scikit-learn, Pandas, Scipy, Matplotlib, Scrapy
Tools: Spark, Amazon Web Services (AWS) S3, AWS EC2, Google Cloud Compute, Jupyter Notebooks, Cron