NIKHIL MEHTA

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Looking for:
Internships Summer 2019

SKILLS

Programming:
Python, Java, C, Julia

Machine Learning:
Deep Learning, Tensorflow, NLP, Vision, Numpy, Pandas, Sci-Kit Learn, Jupyter, Keras Data Analysis, Feature Engineering

Other:
SQL, Cassandra, Linux, AWS, Git, Hadoop

TEACHING

CS 252 Systems Programming Graduate TA: Fall 2018

PROJECTS

Machine Learning

Deep MEMM model for Named Entity Recognition implemented in Pytorch that uses Viterbi for inference.

Yelp Dataset Analysis using Custom Implementation of Naïve Bayes, KNN, and Decision Trees

iPhone Apps, Games

Self-developed app that reached rank #9 in the Paid USA Reference Category and Top 900 Overall in the Paid USA App Store

EXPERIENCE

Researcher at Purdue — August 2017 - Present

- Working with Professor Dan Goldwasser to research ways to train an artificial agent to comprehend natural language instructions and use it to execute robotics / visual question answering tasks. The research paper describing this work is under submission.
- Solving complex problems in the space of Natural Language Understanding using LSTM's, word embeddings, data analysis, Tensorflow, and Numpy.

Loom.ai — San Francisco, CA

Deep Learning Intern — *May - Aug 2018*

Loom.ai builds cutting-edge technology for creating personalized 3D digital avatars from a single photograph. The product, AR Emoji, is now available on every Samsung S9 and Note9.

- Used Computer Vision and Deep Learning techniques (CNN) to predict various attributes (age, gender, ethnicity, hair style, etc.) about a person from a single image.
  - Collected data for and predicted attributes using linear models off of CNN (Face Recognition trained) features. Improved attribute classification accuracy by 18%.
  - Improved age classification Mean Absolute Error from 5.32 to 3.88 years (27% better).
  - Created an approach to fine-tune an attributes model to easily classify new attributes.
- Developed a system to visualize and understand any CNN using Network Dissection.

UnifyID — San Francisco, CA

Machine Learning Engineer Intern — *May - Aug 2017*
Software Engineer Intern — *May - Aug 2016*

UnifyID uses sensor data to implicitly authenticate users, effectively eliminating the password.

- **Machine Learning + Data Science:**
  - End-to-end implemented a system to identify users based on how they pick up their phone using signal preprocessing that is now an authentication factor.
  - Evaluated techniques such as Power Spectral Density analysis, Support Vector Machines, and Clustering to authenticate based on human resonance frequency.
  - Worked to improve the state of the art gait authentication system using Deep Nets.
- **TechCrunch Disrupt Beta:** contributed to the backend server, iOS app, and Chrome extension via REST APIs, RSA Security, and Database Interactions.

EDUCATION

Purdue University — West Lafayette, Indiana

M.S. Computer Science — *Aug 2018 – Dec 2019*

Focus: Machine Learning
Relevant Coursework: Machine Learning for Natural Language Processing, Matrix Computations, Operating Systems, Statistical Machine Learning

B.S. Computer Science — *Aug 2014 - Jun 2018*

Focus: Machine Intelligence and Security
Relevant Coursework: Compilers, Algorithms, Probability, Statistical Theory, Networks, Artificial Intelligence, Foundations of Real Analysis, Computer Security, Cryptography

PEER REVIEWED PUBLICATIONS

ICML 2017 Tiny-ML Workshop Memorization in Binarized Neural Networks.
Evaluated the generalization ability of Binary Neural Networks. Authored and presented.