Adel Setoodehnia

asetoodehnia@berkeley.edu | LinkedIn: linkedin.com/in/adel-setoodehnia/
Website: asetoodehnia.github.io | Github: github.com/asetoodehnia

Education

University of California, Berkeley — Berkeley, CA
Bachelor of Arts in Mathematics and Computer Science; GPA: 3.62/4.0 — *Expected May 2020*

Relevant Coursework: Groups, Rings, & Fields · Complex Analysis · Real Analysis · Abstract Algebra · Numerical Analysis · Probability and Random Processes · Linear Algebra · Multivariable Calculus · Deep Neural Networks · Operating Systems and Systems Programming · Machine Learning · Artificial Intelligence · Efficient Algorithms and Intractable Problems · Data Structures · Computer Architecture

Experience

Goldman Sachs — New York City, NY
Securities Strats Summer Analyst — *May 2019 - August 2019*

- **Equities Synthetic Products Group Strats team**: I conducted research and analysis on Goldman's projected dividend data, identifying some key issues and proposing solutions to help remodel and update projection models Goldman Sachs uses for the data. The data was comprised of the dividends being paid out by all the underlyers of the Russell 3000 index, and I conducted my analysis and tested my models primarily in Python.
- **Ficcs Bolt Web Strats and Ficcs Repo Strats team**: I implemented a framework to automate quoting for Bond Future Invoice Spreads. I primarily worked in Slang, Goldman's proprietary programming language, and Java.

Intertrust Technologies — Sunnyvale/San Francisco, CA
Data Scientist Intern — *May 2018 - August 2018*

- I worked with the Data Science team to design and develop algorithms and models that utilized by Intertrust's Modulus Trusted Data Platform.
- I researched and applied machine learning techniques and algorithms such as LSTM RNNs for power prediction and anomaly detection of time series data provided by several wind farms.

University of California, Berkeley — Berkeley, CA
Course Staff - CS61B: Data Structures — *August 2018 - present*

- As part of the course staff, I helped with grading assignments, proctoring exams, hosting office hours, and teaching lab and discussion sections for students.

Projects

- **Battery [Life] Not Included**: Using Attention Models to Predict Battery Life
  - The aim was to tackle the problem of predicting how long a lithium-ion battery will last before it "dies" using deep learning techniques.
  - The data used was associated with the paper "Data driven prediciton of battery cycle life before capacity degradation" by K.A. Severson, P.M. Attia, et al.
- **Pintos**: Extended the educational operating system Pintos to implement...
  - a priority scheduler and MLFQS for the threading system, various system calls, a buffer cache, support for extensible files, and support for subdirectories.
- **Image Captioning & Style Transfer**:
  - I implemented an image captioning system on MS-COCO using vanilla recurrent networks and using Long-Short Term Memory (LSTM) RNNs. Using SqueezeNet as a feature extractor, I also implemented the style transfer technique from "Image Style Transfer Using Convolutional Neural Networks" (Gatys et al., CVPR 2015)
- **PACMAN**: Reinforcement Learning
  - Incorporated Q-learning and Value Itertion to optimize the Pacman agent's actions for different environment MDPs
  - I further optimized the agent by implementing an approximate Q-learning agent that learns weights for features of states, where many states might share the same features.
- **BearMaps**: A web mapping application which spans all of Berkeley, CA inspired by the Google Maps team and the OpenStreetMap project
  - I implemented a quad-tree data structure to store images of Berkeley and developed a rastering algorithm which would concatenate the correct amount of images to display a map to the user.
  - Loaded all intersections and roads as vertices and edges into a graph data structure and ran A* search to find directions from one location to another.

Skills

- **Languages**: Python, Java, C, SQL, HTML/CSS, MATLAB, Scheme **Technologies**: Git, AWS, IntelliJ, Jupyter Notebooks, Jira, AutoCAD
- **Libraries**: Keras, TensorFlow, PyTorch, Scikit-Learn, Numpy, Pandas, Matplotlib, Spark, OpenMP
- **Spoken Languages**: English, Farsi (Persian)

Additional Experience & Achievements

- Project Manager at **Medical Technology at Berkeley**
- Autodesk Certified User certification in **AutoCAD**