Allen Ye

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Relevant Links: LinkedIn | GitHub | Google Scholar
Programming Languages: Python, Java, JavaScript, C++, Go/Golang, Swift, HTML, CSS, SQL
Technologies: Git, Tensorflow, Keras, scikit-learn, PostgreSQL, NumPy, pandas, JQuery, Flask, TypeScript, MATLAB

EDUCATION

Northeastern University **December 2023**

- BS Computer Science with concentration in Artificial Intelligence with Dean's scholarship
- Courses: Lin Alg, Multivar Calc, Discrete Math, OOP, DSA, Math Models and Proofs, Theory of Comp, Cyber Sec

WORK EXPERIENCE

Tesla Autopilot **Palo Alto, CA**

Incoming SWE Intern for AI Data Tooling Team May 2023 - August 2023

- Incoming Summer 2023 Intern for Tesla's autonomous vehicle division

Amazon **Sunnyvale, CA**

SDE Intern for Alexa AI September 2022 - December 2022

- Created a Java package to be consumed by client packages for an end-to-end data pipeline integration that captures customer feedback metrics and signals
- Leveraging AWS services such as OpenSearch for creating indexes to store/retrieve data
- Performing data analysis and visualizations in Kibana and setting alarms based on logged metrics

Northrop Grumman **Virtual**

Software Engineering Intern - Sustainment and Modification of Radar Sensors June 2022 - September 2022

- Added new capabilities on the radar operation system using C++ while working in an Agile environment
- Resolved multiple high-priority bugs to enhance the GUI display of the Mission Application Software
- Led other interns within the team and coordinated tasks to meet sprint deadlines and efficiently resolve tasks

NASA **Virtual**

Natural Language Processing and Machine Learning Intern - Ames Research Center January 2022 - May 2022

- Improving the efficiency of the National Airspace System and optimizing flight operations through analyzing and extracting semi or unstructured information from flight documents (Operations Plans)
- Conducted unsupervised learning experiments by clustering high dimensionality data using NLP methods (spacy, tf-idf, UMAP, DBSCAN)
- Assisted in evaluating a speech-to-text NLP model specific to FAA terms for transcribing FAA webinar meetings

San Jose State University | Springer Textbook | Arxiv Research Paper **San Jose, CA**

Research Intern Under Professor Mark Stamp May 2020 - August 2020

- Researched the applications of AI with ensemble learning for detecting malware and published the chapter "On Ensemble Learning" in the Springer textbook "Malware Analysis using Artificial Intelligence and Deep Learning"
- Processed 80 GB of raw malware data, extracted opcode features using data pipeline, and trained various machine and deep learning models including CNNs (1-D and 2-D), SVMs, MLPs, KNNs, and ANNs
- Applied ensemble methods of bagging, stacking, and boosting to complement previously mentioned models
- Achieved balanced accuracy of 88.16%, precision score of 93.84%, recall score of 93.37%, and F1 score of 93.13%

Stanford University | Arxiv Research Paper **Palo Alto, CA**

Research Assistant for Graduate Student August 2020 - December 2020

- Evaluated the accuracy of a fast online linear algorithm in Matlab and created input data of various distributions
- Used Matlab's CVX and Mosek ApS solver to compare fast online linear algorithm effectiveness to an offline algorithm

PROJECTS

Quantitative AI Trading Bot | Github Demo | (Flask, React, PostgreSQL, Tensorflow, Keras) **San Jose, CA**

- Training LSTMs on historic intraday data at 1 minute intervals to create an automated stock bot
- Using React and PostgreSQL to develop full-stack application for market simulations and bot trading visualizations

Computer Vision Lip Reader | Github Code | Paper | (OpenCV, Tensorflow, Keras) **San Jose, CA**

- Built a lip-reading algorithm from scratch for helping the deaf by using deep learning and computer vision
- Achieved an accuracy of 33% by experimenting with 1-D CNNs, 2-D CNNs, and ensemble learning methods
- My algorithm classifies and translates visual lip movements into phonemes that can be stitched back into words
- Awarded 2nd Place in the 2021 Synopsys Science Fair

AI Sudoku Solver | Github Code | Paper | (Flask, HTML, Javascript, CSS, Keras) **San Jose, CA**

- Developed a website that solves an uploaded picture of an unsolved sudoku grid picture by using computer vision
- Integrated Flask as a backend service that processed image queries from users and outputted a solved sudoku puzzle