

# Allen Ye

408-343-9628 | [allenye66@gmail.com](mailto:allenye66@gmail.com) | [allen-ye.com](http://allen-ye.com)

**Relevant Links:** [LinkedIn](#) | [GitHub](#) | [Google Scholar](#)

**Programming Languages:** Python, Java, JavaScript, C++, Go/Golang, Swift, HTML, CSS, SQL

**Frameworks:** Django, React, Tensorflow, Keras, scikit-learn, NumPy, pandas, JQuery, Flask, PyTorch

**Technologies:** Git, AWS (S3, ECS, RDS, SQS, Kinises), PostgreSQL, REST, OpenSearch, GraphQL, Spark, Jaeger

## EDUCATION

**Northeastern University**

**December 2023**

- BS Computer Science, concentration in Artificial Intelligence with Dean's scholarship

## WORK EXPERIENCE

**Tesla Autopilot**

**April 2023 - July 2023**

*SWE Intern for AI Tooling Team*

Palo Alto, CA

- Contributed to the development of an internal tool that performs evaluations and comparisons on neural network models to validate and assess their performance for Tesla's full-self driving software
- Led the creation and development of a service to assess if a computer vision models will be deterministic or not
- Added Jaeger tracing to enable comprehensive monitoring of individual service durations, identified performance bottlenecks, and pinpointed areas for optimization (reduced database queries, refactored key components, DevOps)

**Amazon**

**September 2022 - December 2022**

*SDE Intern for Alexa AI - Local Information*

Sunnyvale, CA

- 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**

**June 2022 - September 2022**

*SWE Intern - Sustainment and Modification of Radar Sensors*

Virtual

- 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**

**January 2022 - May 2022**

*NLP and ML Intern - Ames Research Center*

Virtual

- 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](#)

**May 2020 - August 2020**

*Research Intern Under Professor Mark Stamp*

San Jose, CA

- 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](#)

**August 2020 - December 2020**

*Research Assistant for Graduate Student*

Palo Alto, CA

- 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

**Computer Vision Lip Reader** | [Demo](#) | [Github Code](#) | [Paper](#) | (OpenCV, Tensorflow, Keras)

**2023**

- Built a lip-reading algorithm from scratch for helping the deaf by using deep learning and computer vision
- Designed a script to collect ~700 individual videos of people speaking words, roughly amounting to 3GB of training data
- Used 3D-CNNs to classify frame sequences into words and achieved a training and testing accuracy of 97.4% and 99.2%
- Final model has high precision, recall, and F1 score, and is lightweight enough to run and predict in real-time

**Quantitative AI Trading Bot** | [Github Demo](#) | (Flask, React, PostgreSQL, Tensorflow, Keras)

**2022**

- 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