ANGELA (ZI LAN) ZHANG

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EDUCATION

Dartmouth College, Hanover, NH **Expected June 2023**
B.S. Computer Science and Quantitative Social Science GPA 3.82/4.0
Relevant Coursework: Machine Learning in Python, AR / VR Development, Full-Stack Development, Object Oriented Programming in Java, Statistics in R, Algorithms, Discrete Mathematics, Linear Algebra

York House High School, Vancouver, BC **June 2019**
Honors/Awards: 5x Honors Roll, AP National Scholar GPA 4.0/4.0

SKILLS & TECHNOLOGIES

Programming Languages: Python, Java, JavaScript, C#, HTML5, CSS3, R
Frameworks & Modules**:** React.JS / Redux, Node.JS / Express, Flask, Bootstrap, jQuery, MongoDB, Mongoose, NumPy

WORK EXPERIENCE

Digital Applied Learning and Innovation (DALI) Lab, Hanover, NH **August 2020 - Present**
Software Engineer

- Admitted as one of the youngest members to the tech-entrepreneurial program after a rigorous selection process
- Created products for companies around the world in teams of designers, engineers, PMs
- Most recently a full-stack and data visualization developer for a web-based beetle outbreak prediction project (see project below)

Dartmouth Academics Skill Center, Hanover, NH **April 2020 - Present**
Computer Science and Math Tutor

- Helped 5 assigned peers to achieve 90%+ in Calculus and Python classes in a 1:1 setting
- Provided feedback to simplify complex concepts, debug, improve efficiency and decrease memory usage
- Established trust by being accessible, patient, and empathetic

PROJECTS

Amazon Product Quality Prediction Tool (Python, NumPy) | email me if interested in seeing code

- Developed a machine learning model that predicts the quality of an Amazon grocery product with high precision and recall (F1 = 0.87)
- Cleaned and processed product review data using TFIDF vectorizer, normalizing, and SMOTE oversampling
- Trained several classifiers using processed data, including logistic regression, naïve bayes, decision tree, linear SVC, k-neighbors, random forest, SVMs, AdaBoost, bagging, neural networks
- Applied interesting features & approaches such as Vader Sentiment analysis, hyperparameter tuning and ensemble techniques

Pine Beetle Infestation Visualization and Prediction Tool (Full-stack) | https://pine-beetle-prediction-dev.netlify.app

- Backed and funded by the US Forest Service to address devastating southern pine-beetle outbreaks that are notoriously hard for foresters to predict and prepare for
- Built a tool that visualizes southern pine-beetle outbreak data and generates outbreak predictions in an interactive format
- Optimized user accessibility through UI/UX research and design, which are implemented using React and front-end JS libraries
- Integrated map visualizations that show geographic information about outbreaks using Mapbox, Chart.JS
- Improved average prediction generation time from several minutes to seconds by rewriting the backend data pipeline to a MongoDB database using Express.JS middleware and restructuring data organization using Mongoose schemas

Twitter-Reddit Content Sharing Optimization (API) | https://github.com/azhang4216/RedditAPI

- Created Twitter-Reddit API Project to uplift people during shelter-in-place with memes and laughter
- Leveraged Reddit's effective upvote system and Twitter's accessibility for optimal content
- Used praw API to source top-rated subreddit memes by leveraging Reddit's up-vote system, which was then posted to a Twitter platform (tweeted) using tweepy API

PROJECTS (COURSE WORK IN PYTHON AND JAVA)

- Dartmouth Map: calculates closest path to take between any two locations on campus using BFS (breadth-first search). Includes a visual map that allows users to see said path
- Sudi: a personal digital assistant that performs POS (parts of speech) tagging via HMM (Hidden Markov Models)
- City Visualizer: animated visualizations for city populations, wrapped in GUI
- Huffman Encoding: compressing and decompressing files using trees, maps, priority queues, file i/o to save bits
- Kevin Bacon Game: an interactive game based on social network problems made using BFS & Graphs
- Sketching Server: a collaborative graphical editor that allows multiple clients to edit the same sketch on a server
- Webcam Painting Program: a webcam-based painting program using a user selected part of the image acts as a paintbrush

LEADERSHIP & CO-CURRICULAR ACTIVITIES

Dartmouth Women's Golf, *Division I Student Athlete*

- Awards include: Program Record Holder, WGCA All-American Scholar, Rookie of the Year, Co-MVP

Dartmouth Agape Student Group, *Outreach & Event Coordination Committee*

- Spearheaded club promotion and outreach to incoming freshmen, resulting in 20+ new freshmen members
- Transformed and adapted membership events to an online format in unprecedented COVID times