Stephen Yu

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Education

University of California, Los Angeles   **Los Angeles, CA**
B.S. Statistics and Data Science, Minor Data Science Engineering | GPA: 3.88/4.0   *Sep 2020 – Jun 2024*

- **Coursework:** Machine Learning, Computer Science, Python, R, Optimization, Models and Data Mining, Mathematical Statistics
- **Planned Coursework:** Data Mining, Data Science, Algorithms

Experience

Thrive Academy   **Los Angeles, CA**
Co-Founder   *Feb 2023 – Dec 2023*

- Co-Founded a tutoring and training service garnering a 98% satisfaction rating from clientele and parents
- Oversaw end-to-end website development using **PHP** and **JavaScript** to achieve a mobile friendly platform
- Tutored 15+ students, leading them to achieve a 90 point improvement on SAT scores and 10% improvement on test scores

Tsiang Lab - UCLA   **Los Angeles, CA**
Undergraduate Researcher   *Sep 2023 – Dec 2023*

- Scripted an algorithm in **Python** (**Numpy**, **Pandas**, **BS4**) to scrape 25 predictors for 4577 observations from assorted websites
- Imputed data using MICE and leveraged SMOTE to create 3000+ synthetic data points for underrepresented class
- Utilized dimension reduction techniques such as Lasso Regression and Stepwise BIC to reduce to 9 significant predictors
- Implemented supervised learning models in **R** (**mclust**, **class**, **MASS**) resulting an average F1-score of 83%

Northrop Grumman   **Woodland Hills, CA**
Software Engineer Intern   *Jun 2022 – Aug 2022 / Jun 2023 – Aug 2023*

- Performed **MATLAB** testing on eight **Simulink** hyper models for hybrid navigation integration
- Created STCs for 2000+ independent signal inputs to evaluate system performance under all possible conditions
- Provided valuable insight and guidance for improved theory and optimization leading to 100% accuracy and 100% coverage
- Effectively updated JIRA to communicate task progress to my SCRUM team for project roadmap
- Developed a byte unpack algorithm for SCC buses, meeting IICD standards for IMU to System Processor bit stream
- Documented 100+ risks and opportunities using proprietary risk-management software (TETRA)
- Co-Managed risk registry data which garnered approximately $10,000,000 worth of project funding from customer
- Arranged 47 interviews with program stakeholders and experts to revise schedule, cost, and risk probability
- Optimized project roadmap by reordering epics that block mandatory work to pull project end date up 8 months

Electrum Homes   **Irving, TX**
Data Analyst Intern   *May 2021 – Sep 2021*

- Data mined information from web to expedite algorithm inputs which increased team productivity by 60%
- Analyzed 1000+ residences to gain experience in resale, rentals, renovation, financing, contracts, wholetail, and property tax

Projects

K-Cluster Gaussian Hotspots (KCGH)
Python: scikit-learn, scipy, numpy   *Jan 2024 – Present*

- Devised a novel supervised learning algorithm using clusters and gaussian hotspots within each class
- Compared accuracy to K-Nearest Neighbor on real world datasets resulting in an average boost of 3.5%
- Advantages over KNN include increased interpretability, reduced prediction cost of $O(K)$, and a probabilistic insight

Yelp Sentiment Mining
R: Tidyverse, car, mclust, class, MASS, pROC   *Sep 2023 – Dec 2023*

- Preprocessed 50,000+ IMDB reviews using K-Means Data Clustering and measured inertia to find optimal hyper parameter
- Applied Logistic Regression, KNN, LDA, QDA, and Random Forrest with K-Fold CV receiving a maximum accuracy of 88%

Smart Sprite
Python: pygame, numpy, pandas   *Aug 2023 – Sep 2023*

- Constructed an unsupervised reinforcement learning algorithm on an agent to train and progress through a 2D platformer
- Addressed exploration vs exploitation dilemma with ε greedy, upper bound catching, and optimistic outlook methods
- Agent learned to complete levels with enemies and obstacles 20% faster than human

Additional Information

Awards / Honors: Guidance, Outstanding Intern, Team Project Showcase, Dean's List
Activities / Interests: Chess, Basketball, Football, Weightlifting