ALBERT HO

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EDUCATION

Bachelor of Science, Computer Science — University of California, San Diego   **Expected: June 2026**
Awards: Summer URS Philip and Elizabeth Hiestand Scholarship   GPA: 3.8

WORK EXPERIENCE

Software Engineer Research Intern | UCSD Health — Hojun Li Lab   **October 2024 - Present**

- Engineered a scalable Python-based bioinformatics pipeline for parsing BAM alignment files from Oxford Nanopore's Dorado platform, enabling efficient detection and quantification of A-to-I RNA editing events
- Developed a computationally optimized algorithm to calculate per-base modification frequencies, leveraging ONT's statistical models and vectorized Pandas/Numpy operations to minimize runtime and memory overhead
- Implemented automated genomic feature annotation using interval tree data structures, producing reproducible, research-ready datasets that support downstream analyses
- Engineered a reproducible, scalable workflow for more than 57,000 single-cell profiles using R, Seurat, and Python/Pandas, improving pipeline maintainability and computational efficiency

Data Science Intern | Lawrence Livermore National Laboratory   **July 2024 - August 2024**

- Developed a production-ready machine learning pipeline for ventricular arrhythmia classification, benchmarking Logistic Regression, Random Forest, and deep learning models (CNNs and RNNs)
- Achieved 99% recall by designing and hyperparameter-tuning a sequence-to-sequence convolutional neural network, significantly improving diagnostic sensitivity
- Processed and labeled large datasets (over 16,000 samples) using Pandas dataframes for training and testing

PROJECTS

Stock-em | Python, Flask, PyTorch, yfinance, HuggingFace, HTML, JS   **October 2025 - Present**

- Developed a LSTM, RNN hybrid model to predict futures using historic stock prices and news sentiment scoring
- Incorporated a backtesting model to benchmark predicted values on existing data; displayed the model's buy, sell, and short calls, as well as outcomes such as profits, losses, SHARPE ratio, and return percentages
- Implemented a full stack web application capable of allowing users test the pipeline on different tickers and view returns

WebDevScav | HTML, MongoDB, JavaScript, CSS   **October 2025 - Present**

- Designed a full stack web game aimed at exploring web development tools through simulated webpages
- Incorporated a MongoDB database to store simulated web pages and JavaScript injections

MewsiCat | Python, JavaScript, React Native, AWS, Expo   **November 2023 - May 2024**

- Implemented mobile social networking application incorporating the Spotify API and interactive sprites/modules
- Guided a team of four to create and design a mobile application's user interface and experience (UX/UI)
- Developed full-stack integration for data processing and retrieval through AWS, JavaScript, and Python scripts

Earth Equity | React, JavaScript, HTML, Tailwind CSS, D3.js   **October 2023**

- Led a team of 5 to develop a full-stack web application for NASA Space Apps Hackathon; leveraging NASA time-series datasets through stock market trend indicators for data visualization
- Integrated interactive database displays and modules utilizing React framework, Tailwind CSS, and D3.js
- Incorporated the integration of data from Python data-scrapping algorithms utilizing Javascript scripts

TECHNICAL SKILLS

Languages — Python, R, C/C++, HTML, CSS, JavaScript, Java
Frameworks — Agile, React, Node.js, WordPress, Tailwind CSS
Tools & Libraries — Git, Github, VS Code, Firebase, AWS, PyCharm, XCode, Unreal Engine, scikit-learn, tensorflow, PyTorch, pandas, NumPy, Matplotlib, D3.js
Certifications — CodePath Certificate in Intro to Android Mobile Development
Relevant Coursework — Data Structures and Algorithms, Operating Systems, AI: Probabilistic Models, Software Engineering, Engineering Probability and Statistics, Intro to Cyptography, Theory of Computation