Henry Hong

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EDUCATION

University of California, Berkeley   **Expected Graduation: May 2026**

B.A. Computer Science | B.A. Cognitive Science   **GPA: 3.94/4.0**

Awards and Honors: 2023 UC Berkeley Datathon for Social Good (2nd Place, Team Lead), The Leadership Award (Cal Alumni Association Scholarship), UC Berkeley Dean's Honor List, National Merit Scholar, California Mock Trial Prosecution (1st Place, Team Captain), 3x California All-State Wind Symphony Alto Saxophonist

Relevant Coursework: Machine Learning, Artificial Intelligence, Data Structures and Algorithms, Discrete Math, Linear Algebra, Data Science, Multivariable Calculus, Differential Equations, Signal Processing, Probability

EXPERIENCE

Computational Neuroscience Researcher   Aug. 2024 – Present

Fan Lab, University of California, San Francisco   *San Francisco, CA*

- Designed and optimized an LSTM neural network pipeline with **86.5%** accuracy to predict epileptic spikes across sleep-wake cycles, contributing to personalized seizure management in clinical research
- Developed a line length transform to detect and tag seizure events, increasing spike detection accuracy by **23%**
- Calculated key biomarkers to identify patterns associated with epilepsy, supporting insights for early intervention

Full-Stack Developer   June 2023 – Present

UC Berkeley Chinese Student Association   *Berkeley, CA*

- Developed and deployed a scalable Django web app backed by MySQL, attracting over **10,000** monthly users
- Optimized backend by restructuring queries and integrating Redis caching, reducing latency by **30%**
- Designed and implemented a Django-based photo and events upload automation, streamlining content management for administrators and improving UX by simplifying event documentation

Data Science Consultant   June 2024 – Oct. 2024

Universal Health Services   *King of Prussia, PA*

- Constructed an ARIMA time-series forecasting model with **81.5%** accuracy for monthly financial metrics
- Identified key predictive features found with Random Forest, Gradient Boosting, and LSTM models
- Presented insights to executives, showing a **17%** forecast accuracy boost for financial decision-making

Data Science Researcher   Dec. 2023 – May 2024

UC Berkeley College of Letters and Science Deans' Office   *Berkeley, CA*

- Developed a logistic regression model achieving **94.4%** accuracy for predicting alumni donation likelihood
- Built and optimized an LSTM model with **86.4%** accuracy for donation amount forecasting
- Authored a paper on predictive modeling in alumni donations, presented at Berkeley's Data Science Symposium

PROJECTS

NodeLinker | *Graph Neural Networks, React, Flask, JavaScript*   Dec. 2023 – May 2024

- Outlined an AI-assisted member directory for **100+** students and alumni via React and Flask, deployed on Heroku
- Developed a personalized recommendation system by implementing a Graph Convolutional Network (GCN) with PyTorch, achieving an ROC AUC score of **0.72** in link prediction accuracy between members
- Integrated Google OAuth 2.0 for secure login, retrieved data through Airtable API, and generated dynamic responses using OpenAI API, enhancing user engagement and interaction

DeepOculus | *Generative Adversarial Networks, LSTM*   Nov. 2023

- Trained a GAN to generate synthetic eye movement videos, aiding C. Light Technologies in disease modeling
- Built an LSTM with **93.4%** accuracy to predict disease-related pupil movements, aiding diagnostics
- Won **2nd Place** in UC Berkeley's 5th Annual Datathon for Social Good

SKILLS AND INTERESTS

Languages: English (Native), Mandarin (Working Proficiency), Japanese (Limited Proficiency)

Skills: Python, Java, SQL, R, C++, Pandas, ML, Matplotlib, Seaborn, Scikit-learn, NLTK, Gensim, Keras, Tensorflow, Excel, Adobe Creative Cloud, Figma, React, Node.js, Git, Docker, Google Cloud Platform, AWS, Data Visualization, Data analytics, Tableau, Looker, AB Testing, Research, Data/Software Engineering, Data Cleaning, Normalization

Interests: Sports Analytics, Rowing, Gym & Fitness, Saxophone, Piano, Neuroscience, Hiking, Mountaineering