Aaron Chang

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Education

Yale University | New Haven, CT | **GPA:** 4.00/4.00   May 2026
- BS in Computer Science
- Yale Computer Society, Yale Undergraduate Diversified Investments, Yale Hedge Fund Association

Relevant Coursework: Big Data Analytics, Algorithms, Programming Languages, Discrete Mathematics, Multivariable Calculus, Linear Algebra, Engineering Probability, Statistical Inference, Corporate Finance, Macroeconomics

Work Experience

Full-Stack Software Engineer Intern | pre.dev | New York City, NY   May 2024 – Aug 2024
- Led development of Retrieval-Augmented Generation pipelines using JavaScript, Python, Pinecone, MongoDB, GraphQL, and OpenAI's function calling API to increase generative UI quality and intelligent LLM context
- Proposed and implemented original ideas: React component image RAG, context retrieval from neighbor nodes
- Actively directed projects for generative UI features through daily meetings

Credit Underwriting Software Engineer Intern | Reprise Financial | Wilmington, DE   Jun 2023 – Aug 2023
- Modeled client loan risk using random forest models in Python and SQL to predict loan defaults and reduce customer churn
- Automated high-risk customer assessments using Python and SQL to significantly reduce review time
- Implemented new customer handling logic in Python for returning borrowers, which increased customer retention rates by 20%

Growth Manager, Founding Team | 2.5 Intelligence | Austin, TX   Feb 2022 – Sep 2022
- Secured product usage deals with two blockchain ventures worth $2.6M in trading volume on OpenSea
- Presented 11 well-received reports on profitability of various blockchain projects to over 5,000 readers using our ML models' insights and investigative reporting
- Led team of 3 community managers to achieve 10x online community growth in three months

Research & Projects

Multimodal AI (NLP, Computer Vision) Researcher | Prof. Raghuram Iyengar | UPenn   Feb 2024 – Present
- Designing search algorithms on multi-layer knowledge graphs using Python, Neo4j, and OpenAI function calling API for enhanced RAG features
- Predicted upscaling likelihoods of generated images using Latent Dirichlet allocation (LDA), UMAP dimensionality reduction, word2vec, and logistic regression

GWAS Genome Data Analyst | Prof. Jingchun Chen | University of Nevada, Las Vegas   Dec 2023 – Jan 2024
- Wrote Python scripts to scrape and process genome datasets as input to convolutional neural networks

Replication of *AI safety via debate* **paper (OpenAI);** trained MCTS agents to aid or trick a judge (classifier)   Jul 2024

GPT-2 from scratch in C++, CUDA; wrote custom classes for Tensor, Layer, & backpropagation   Apr 2024 – May 2024

Awards & Skills

1st Place, Jane Street Mystery Planet 2024 | Philadelphia, PA   Jul 2024 – Oct 2024
- Led team of 8 in trading competition with both puzzle-solving and open trading sections.

2023 Atlas Fellow | Atlas Fellowship | Berkeley, CA   Aug 2023
- Top 0.8% of applicants; $10,000 scholarship and fully-paid 11-day program on AI safety, trading, rationality

4x Qualifier for the American Invitational Mathematics Exam

Programming: Python (torch, numpy, pandas), RAG (vector and graph DBs), Java, C/C++, SQL, JavaScript/TS
Languages: Mandarin Chinese (Fluent), Spanish (Upper-Intermediate; B2 level on CEFR)