Alvin Banh

669-216-7629 | albanh@mit.edu | linkedin.com/in/alvin-banh | github.com/alvin-banh

EDUCATION

Massachusetts Institute of Technology — Cambridge, MA
Bachelor of Science in Computer Science — *Aug. 2022 – May 2026*

EXPERIENCE

Undergraduate Researcher — June 2024 - February 2025
MIT CSAIL — *Cambridge, MA*
- Collected and analyzed data from 1200+ AI models papers
- Maintained comprehensive metadata for consistent decision-making, achieving a 80%+ agreement rate
- Identified emerging trends in AI architectures, informing research directions within the foundational model domain

Engineering Intern — July 2022 - August 2022
Bizlink Holding Inc — *Fremont, CA*
- Researched hardware architecture of 20+ cable and autonomous vehicle (AV) companies
- Compiled over 30 key performance and design metrics to inform product development
- Synthesized data into 10 comprehensive reports of hardware specifications for cross-functional teams
- Compiled 100+ pages of notes from SEMICON West, structuring insights into a centralized repository

PROJECTS

Finetuned Multimodal LLM Chatbot with Text-To-Speech Functionality — Feb 2024 – Mar 2025
- Implemented the 7B-parameter DeepSeek model to run seamlessly on CPU-only infrastructure
- Achieved a 200% reduction in average latency through efficient model optimization, improving user retention
- Applied low rank adaptation functionality (LoRA) to fine-tune the model, decreasing training time by 15%

AI Poker Bot with Monte Carlo Simulation — Dec 2023 – Feb 2024
- Developed a high-performance AI to dynamically compute real-time winning probabilities with over 90% accuracy
- Employed comprehensive risk analysis and achieving a 20% increase in overall win rate
- Optimized the simulation framework to complete 8,000 epochs in under 30 seconds, enabling scalable performance

COVID-19's Origins Logistic Regression Model — February 2021 – March 2021
- Conducted large-scale genomic analysis (over 30,000 sequences) to compare COVID-19 and bat coronavirus strains, pinpointing high-risk transmission regions
- Implemented feature reduction methods, achieving a 91% accuracy rate
- Applied L1 regularization to curb overfitting, ensuring robust and statistically reliable predictions

AWARDS

Ruth and Norman Rales Scholar — March 2022
KIPP Public Charter Schools — *San Jose, CA*
- Awarded a competitive four-year scholarship recognizing exceptional public service
- Demonstrated consistent dedication to scholarly pursuits by maintaining a 3.0 GPA or higher
- Strengthened leadership through active participation in annual leadership conferences across the nation

TECHNICAL SKILLS

Programming Languages: Python, Java, C/C++, SQL, JavaScript, HTML/CSS
Developer Tools: Git, VS Code, Visual Studio, Linux, IntelliJ, MongoDB, FluidX3D
Libraries: scikit-learn, pandas, NumPy, Matplotlib, Manim
Languages: Fluent English, Novice Spanish