Khoa Nguyen

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Summary

UC Berkeley EECS student specializing in the intersection of AI, embedded systems, and full-stack development. Proven ability to architect and deploy scalable, cloud-native AI applications from the ground up. Passionate about leveraging software to solve complex hardware challenges.

Education

- **University of California, Berkeley** — Berkeley, CA
  Bachelor of Science in Electrical Engineering & Computer Science, GPA 3.65 — *Aug. 2023 – May. 2026*

Experience

- **Google, Platforms & Devices** — Mountain View, CA
  AI Engineer Intern (Hardware Team) — *May 2024 - Present*
  - **Full-Stack AI System Development**: Architected and built "Bishop," a full-stack AI agent to automate hardware design reviews, leading the project from prototype to a deployed Google Cloud application in under 3 months for teams like Pixel.
  - **Resilient, Real-Time Architecture**: Engineered a resilient, real-time architecture using Firestore and a custom async timeout/retry system, ensuring stability for long-running AI tasks and overcoming core SDK limitations.
  - **Intelligent "Design Memory" System**: Pioneered the "Design Memory" system, transforming the agent from a stateless tool into an intelligent partner that learns from past reviews to improve fault detection accuracy.
- **CalCentral, Berkeley IT** — Berkeley, CA
  Frontend Software Engineer — *Aug 2024 - Present*
  - **Large-Scale System Migration**: Leading the migration of a legacy Angular app to a modern React stack for 40,000+ users, engineering a new component architecture to improve developer velocity and maintainability.
  - **Web Performance Optimization**: Cut initial page load times by 30% via code-splitting and lazy loading, improving UX for all students.
- **Ma Lab, UC Berkeley EECS & Physics Dept.** — Berkeley, CA
  Machine Learning Engineer & Research Team Lead — *Aug 2023 - Present*
  - **Scientific AI & Transformer Optimization**: Improved scientific literature clustering accuracy by 50% by fine-tuning PyTorch Transformer models for large-scale semantic analysis, unlocking new paths for automated discovery.
  - **Scalable Data Processing Pipeline**: Built a scalable Python pipeline to process and analyze 1M+ multimodal physics papers, automating a previously manual research workflow.
  - **Research Leadership & Funding**: Led a student team to secure a Google Research Scholar grant, driving the project vision and development of novel AI tools for high-impact physics research.

Projects

- **SciRev.AI**: AI platform for scientific proposal review; used transformers to extract structured data from unstructured text.
- **RoboPath**: Autonomous navigation robot (Jetson Nano) using YOLO for real-time object detection and pathfinding.
- **AUDIOVSL**: Full-stack web app for multimedia conversion, integrating advanced DSP algorithms with an intuitive UI.
- **IoT DoorLock Toolkit**: Open-source Raspberry Pi smart lock with a secure, remote-access mobile web interface.

Skills

- **Languages**: Python, C/C++, JavaScript/TypeScript, SQL, LaTeX, HTML/CSS
- **AI/ML**: PyTorch, TensorFlow, Transformers, Scikit-learn, Pandas, NumPy, OpenCV
- **Dev Tools & Cloud**: Git, Docker, Google Cloud, AWS, Heroku, Flask, React, Node.js
- **Hardware & EE**: Embedded Systems (Raspberry Pi, Jetson Nano), FPGA, KiCAD, Digital Logic, Control Theory