

Aktan Azat

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EDUCATION

University of California, Davis

Davis, CA

Bachelor of Science in Computer Science & Engineering; GPA: 4.0

Graduating June 2026

- Leadership: Director in IEEE, SIAM, Swift Coding Club, Machine Learning Student Network, SacHacks

EXPERIENCE

Fab Production Intern

June 2025 – Present

Rigetti Computing

Fremont, CA

- Built production ETL pipeline with **Python** and **PostgreSQL** for quantum fabrication telemetry; processed **60M+** sensor records daily with automated data validation and anomaly detection reducing manual verification by **85%**.
- Implemented infrastructure monitoring with **Prometheus** and **Grafana**; deployed **Docker** containerized services on **Kubernetes** achieving **99.8%** uptime across fabrication environments with automated alerting and rollback capabilities.
- Optimized database performance with partitioning and indexing strategies; reduced query response times by **65%** on time-series data and implemented connection pooling with **Redis** caching for high-frequency fab monitoring dashboard.

Undergraduate Researcher

May 2025 – Present

UC Davis Health - Complex Care Laboratory, Division of Cardiovascular Medicine

Sacramento, CA

- Fine-tuned **BioBERT** for medical entity extraction and sentiment analysis on **75k** clinical notes; built multi-class document classifier achieving **91%** accuracy across **12** cardiovascular condition categories with active learning feedback loop.
- Deployed information extraction pipeline using **spaCy** and custom **transformer** models; automated structured data extraction from unstructured reports with **94%** precision, reducing manual annotation time by **80 hours/week**.

Software Engineer Intern

January 2025 – May 2025

European Bank for Reconstruction and Development (EBRD)

London, United Kingdom

- Built conversational AI platform using **Azure OpenAI** and **Prompt Flow** for investment analysis; designed RAG system with **Cognitive Search** over **2,400+** project documents achieving **87%** answer accuracy in stakeholder evaluations.
- Fine-tuned **Llama-2-7B** on proprietary development bank data using **LoRA** and **PEFT**; improved domain-specific query responses by **34%** accuracy while maintaining responsible AI guardrails through content filtering and bias detection.
- Implemented end-to-end MLOps pipeline on **Azure ML** with automated model training, validation, and deployment; established CI/CD workflows using **Azure DevOps** with automated testing reducing model deployment time from **3 days to 4 hours**.
- Developed geospatial forecasting models combining satellite imagery with survey data via **PostGIS** and **XGBoost**; achieved **91%** accuracy for GDP nowcasting across **38** emerging markets with real-time monitoring dashboard.
- Worked with cross-functional Agile team of **5** engineers implementing NLP pipeline for news sentiment analysis; processed **50k+** daily articles with **transformer-based** classification achieving **92%** precision on market risk signals.

Data Science Intern

June 2024 – August 2024

Quantum Brains

London, United Kingdom (Remote)

- Architected production RAG system with hybrid retrieval using **BM25** and **sentence-transformers**; implemented **Pinecone** vector database with **HNSW** indexing and cross-encoder reranking achieving **89%** query accuracy on domain queries.
- Built LLM evaluation framework with **prompt engineering** techniques (few-shot, chain-of-thought); designed automated testing pipeline using **LangChain** and human-in-the-loop validation reducing response quality variance by **43%**.
- Deployed conversational AI chatbot with **FastAPI** and **Redis** caching; implemented response streaming and context management serving **2k+** concurrent users with average latency **< 800ms** and **99.2%** uptime.