Aktan Azat

aktanazat@pm.me | 310-405-1476 | Davis, CA
linkedin.com/in/aktanazat | github.com/aktanazat | aktanazat.github.io

Education

University of California, Davis — Davis, CA
B.S. in Computer Science & Engineering *GPA: 3.9 | Tau Beta Pi* — *June 2026*

Industry Experience

Member of Technical Staff — July 2025 – Present
Ovavision (AI Fertility Startup) — *New York City, NY (Remote)*

- Leading end-to-end redesign of consumer-facing **React/Next.js** application used by thousands of users; rebuilt information architecture, component system, and interaction flows through iterative UAT cycles with clinical advisors.
- Architected async model serving with **FastAPI**, Celery+Redis on **AWS ECS/Fargate**; reduced p95 latency from 850ms to 210ms with 62% error rate reduction, directly improving in-app prediction responsiveness.

Software Engineer Intern — Jan 2025 – May 2025
European Bank for Reconstruction and Development (EBRD) — *London, United Kingdom*

- Deployed RAG system using **Azure OpenAI (GPT-4)** + Cognitive Search serving 50+ analysts; 83% usefulness rating vs 61% for keyword search, cutting per-analyst research time by 2.3 hours/week.
- Designed NLP pipeline (**spaCy + transformers**) classifying 30k–70k articles/day at 86–93% precision; surfaced 340+ high-risk items missed by manual review, integrated into analyst-facing risk monitoring workflow.
- Implemented MLOps on **Azure ML** with gated evaluation and blue-green deployment on AKS; cut deployment cycles from 2–3 days to 3–6 hours, enabling rapid iteration on user-reported quality issues.

Data Engineering Intern — June 2025 – Sep 2025
Rigetti Computing — *Fremont, CA*

- Developed real-time monitoring dashboard on **Palantir Foundry** aggregating fab sensor, cryostat, and process control data across 15+ KPIs; adopted by 3 engineering teams for daily production decisions.
- Designed anomaly detection pipeline validating 60M+ daily sensor records, catching 47 critical anomalies before fabrication impact; optimized backing database with partitioning and composite indexes (2.1s → 0.74s).

Data Science Intern — June 2024 – Aug 2024
Quantum Brains — *London, United Kingdom (Remote)*

- Implemented RAG system with hybrid retrieval (**BM25 + dense embeddings**, Pinecone, cross-encoder re-ranking) serving 800 daily queries; reduced response time from 4.2min to 18sec. Deployed **FastAPI** + Redis inference service with monitoring for rapid rollbacks.

Research Experience

Undergraduate Researcher, Complex Care Laboratory — May 2025 – Present
UC Davis Health — Advisor: Dr. Clodomir Santana — *Sacramento, CA*

- Fine-tuned spaCy v3 NER with custom tok2vec embeddings on 4,200 clinical notes; improved F1 from 76% to 91% and deployed pipeline processing 850+ notes/week, surfacing 127 previously unflagged high-risk conditions.
- Integrated caseOLAP with UMLS taxonomy via scispaCy for polarity scoring; identified 6 salient cardiovascular risk factors associated with readmission ($p < 0.01$).
- Trained PubMedBERT sentence classifier (focal loss, data augmentation) separating true protein-disease associations from incidental mentions in HFpEF literature; achieved 0.656 macro F1 (n=176) and removed 500 false-positive proteins (14%) from CaseOLAP rankings across 25,000 abstracts.

Undergraduate Researcher, Ben-Shalom Lab — Sep 2025 – Present
UC Davis Health — Advisor: Mandar Patil — *Sacramento, CA*

- Developed automated spike-sorting and signal analysis pipeline for 120+ neurons from high-density MEA recordings; statistical models explain 18–32% of neural threshold variance from spatial features, validated against immunostaining (89% concordance).
- Fit multi-compartment biophysical models predicting 15–40% threshold shifts from axon initial segment reorganization, consistent with observed plasticity after 72-hour protocols.
- Derived artifact amplitude model fit via log-linear least-squares on 300k+ channel-pulse observations (R^2 up to 0.51); implemented signal processing pipeline for Maxwell .raw.h5 recordings with 300–4500 Hz bandpass filtering.