

AYSE SULE EKIZ

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EDUCATION

North American University — *B.S. Computer Science* | GPA 3.95

Aug 2024 – May 2027

Relevant Coursework: Data Structures & Algorithms, Systems Programming, Operating Systems, Computer Networks, Database Systems, Software Engineering, Big Data Analytics, ML & Big Data, Statistics

Robert College — *Turkey's Premier American High School (est. 1863)* | GPA 3.85

Aug 2018 – May 2023

EXPERIENCE

Software Engineering Intern, Systems Performance & Data — *ForgeMind*

Feb 2025 – Jul 2025

- Profiled production Python services using py-spy to capture CPU usage and memory consumption under live load; combined flame-graph analysis with SQL execution-plan profiling to isolate application-level bottlenecks — applied index restructuring, join reordering, and CTE optimization to cut dashboard render latency 40% and reduce per-request CPU overhead across high-frequency reporting pipelines.
- Analyzed large-scale workload telemetry across feature-adoption funnels and session engagement using complex SQL (window functions, CTEs, cohort analysis); linked behavioral changes to recorded system events, reduced signal noise in operational data, and crafted data-backed conclusions that drove product roadmap decisions across multiple release cycles.
- Engineered resilient Python ETL pipelines ingesting high-volume heterogeneous data (REST APIs, web scrapers, transactional DBs) into a centralized staging layer; implemented schema validation and deduplication as fault-detection layers to eliminate redundant compute and sustain pipeline reliability under increasing ingestion load.

IT & Systems Associate — *North American University*

Sep 2024 – Present

- Shipped and maintained a high-reliability campus platform (NAU Athletics + student portal) serving 1,000+ daily active users; engineered for sustained throughput and uptime under concurrent load, and automated Python reporting workflows eliminating 60% of manual processing overhead.
- Instrumented A/B and usability testing cycles, correlating session data and conversion metrics to product decisions acted on directly by administrators, closing the loop between system telemetry and engineering action.

AI Research Intern, Pipeline Optimization — *Koç University*

Jun 2022 – May 2023

- Diagnosed and optimized end-to-end Python data pipelines for a 2D-to-3D deep learning reconstruction system; restructured preprocessing and labeling stages to improve throughput and reduce per-iteration compute overhead by ~30%, directly accelerating model evaluation velocity.
- Built diagnostic JavaScript visualizations exposing deep learning model performance metrics and spatial transformation behavior, enabling real-time inspection of failure modes for non-technical stakeholders without adding backend processing load.

PROJECTS

Framework: Deep Learning Inference & Observability System — *HackHCC · Best Use of AI & MongoDB Atlas*

May 2026

- Trained a Keras BiLSTM classifier on MediaPipe Python pose landmarks (33-point BlazePose skeleton); applied int8 quantization to compress the model to ~2MB and exported to TF.js, enabling fully on-device inference in the browser with sub-frame latency, no inference server, and zero network dependency on the critical path.
- Built a cross-runtime ML pipeline (Python/Keras/PyTorch training → int8 quantization → TF.js deployment) with custom feature extraction for joint angles, velocities, and symmetry scores; extending with Prometheus metrics and Grafana dashboard for inference latency and error-rate observability. Won Best Use of AI and Best Use of MongoDB Atlas.

OpenStaxAlign: Large-Scale ML Classification Pipeline — *Rice Datathon 2026 · 2nd Place Overall*

Jan 2026

- Architected an end-to-end ML classification pipeline (JSON ingestion → TF-IDF vectorization → Logistic Regression → Linear SVM) optimized for accuracy and runtime efficiency; applied precision/recall diagnostics and confusion-matrix analysis to identify failure modes and drive iterative improvements — achieving 75% multi-class accuracy.
- Designed MongoDB schema for efficient analytics access patterns; structured data models to minimize query complexity, eliminate full-collection scans, and sustain reliable performance across large-scale educational standard prediction workloads.

Obi: Fault-Tolerant Local AI Inference Assistant — *LA Hacks 2026 · Figma UI Challenge Winner*

Apr 2026

- Engineered a resilient, self-contained AI inference stack in 36 hours: locally-run Gemma LLM inside an Electron + Vite shell with a custom RAG retrieval pipeline, eliminated all external service dependencies from the critical path, achieving sub-second response latency with zero cloud failure modes. Judged production-ready by industry evaluators.

TECHNICAL SKILLS

Languages: Python, C++, SQL, JavaScript (ES6+), TypeScript, Bash/Shell, Java, HTML5, CSS3

Systems & Performance: py-spy (CPU & memory profiling), flame-graph analysis, execution-plan profiling, root cause analysis, bottleneck identification, latency optimization, throughput engineering, pipeline reliability, Linux/Bash, Docker, strace, gdb

Data & Analytics: ETL pipeline design, pandas, NumPy, Jupyter, telemetry analysis, log correlation, workload analysis, cohort analysis, A/B testing, data visualization, statistical modeling

ML & AI Systems: Keras (BiLSTM), PyTorch, TensorFlow.js, MediaPipe, scikit-learn, model quantization (int8), ONNX export, RAG pipeline architecture, LLM integration (Gemma, Gemini AI), model evaluation, feature engineering

Databases & Backend: PostgreSQL, MySQL, MongoDB Atlas, Mongoose, Node.js/Express, Flask, REST APIs, Electron, Prometheus, Grafana

Tools: Git/GitHub, Postman, Render, Chrome MV3, Phaser 3, Agile/Scrum, Figma, Adobe Creative Suite

LEADERSHIP & AWARDS

President, ACM-Women — *North American University* 2025 – Present

Ran technical workshops on data science, applied AI, and CS fundamentals; mentored 50+ students on skill-building and career strategy; organized hackathon participation and outreach events.

Leader, Google Developer Student Club — *Google Cloud* 2024 – Present

Launched the GDSC chapter at NAU; organized virtual workshops and events on emerging technologies and developer tools for students and faculty.

Student Ambassador — *World U (world.org)* 2025 – Present

Competitively selected as a paid ambassador for World U, a Sam Altman co-founded program focused on human identity and verification in the age of AI. Plan and execute campus events, introduce students to proof-of-personhood technology, and represent the program at NAU.

Student Ambassador — *Girls Who Code* 2025 – 2026

Delivered Python workshops and guided students through hands-on, data-driven projects; focused on building foundational programming intuition for beginners.

President, Design Club — *North American University* 2024 – 2025

Led instruction on design principles, Figma, Canva, and Adobe Creative Suite tools. Mentored 20+ members and coordinated campus creative events, emphasizing visual communication and audience-focused storytelling.

Competitions & Awards — *Rice Datathon 2026* — 2nd Place · *HackHCC: Code Runners* — Best Use of AI & Best Use of MongoDB Atlas · *LA Hacks 2026* — Figma UI Challenge Winner · *CS Capstone* — Full Marks · *President's Honor Roll*