

Avika Aggarwal

[website](#) | [linkedin/avika-aggarwal](#) | [github/avika-aggarwal](#)

EDUCATION

The University of Texas at Austin

Bachelor of Science in Computer Science – GPA: 3.5/4.0

Austin, TX

Expected Dec. 2027

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, C, HTML/CSS

Developer Tools: AWS (S3, CloudFront, Route 53, IAM), Google Cloud, GitHub Actions, Git, CI/CD, VS Code

Frameworks: PostgreSQL, Node.js, Statsmodels, Google Cloud Firestore

EXPERIENCE

Software Development Engineer Intern

June 2026 – Aug. 2026

NeuralSeek

Miami, Florida

- Built a multi-agent orchestration system to resolve onboarding and training queries for 400+ incoming interns
- Optimized answer generation latency from 12s down to 5s by developing a parallel processing pipeline, deploying Claude 3.5 Sonnet and Llama sub-agents to execute concurrent context retrieval
- Automated query triaging by designing a fallback mechanism, safely routing sensitive HR inquiries to coordinators and saving 10+ hours of manual review weekly
- Integrated targeted document retrieval across 10,000+ historical Q&A records to instantly aggregate context

ACADEMIC & RESEARCH EXPERIENCE

Teaching Assistant– Data Structures & Algorithms

Aug. 2026 – Present

The University of Texas at Austin

Austin, TX

- Directed 5 hours of weekly technical office hours for a 150-student cohort, whiteboarding algorithmic problem solving strategies (e.g., Trees, Hash Maps) to translate theoretical concepts into optimized Java implementations
- Triage daily technical inquiries via Ed Discussion, providing code reviews to unblock students, diagnose Java edge-case failures, and optimize Big-O time/space complexities

Machine Learning Research Assistant

May 2026 – Present

The University of Texas at Austin

Austin, TX

- Processed 20M sensor readings by automating a Python data pipeline for time-series anomaly detection
- Cut pipeline runtime by 55% (16 to 9 hours/run) by refactoring outdated ARIMA pipelines to modern statsmodels

PROJECTS

Cloud-Native Web Application | AWS (CloudFront, Route 53, IAM), GitHub Actions

June 2026

- Designed and developed a web platform hosted on AWS S3, utilizing Route 53 for custom DNS routing
- Automated CI/CD workflows using GitHub Actions and AWS IAM, optimizing deployment time
- Secured traffic with an SSL/TLS certificate to enforce HTTPS, integrating CloudFront for global edge caching

OS Kernel with TCP/UDP Network Stack | C, x86-64, Assembly, QEMU, Limine

April 2026

- Engineered an x86-64 monolithic kernel, implementing core syscalls (fork, brk, waitpid) and user-space memory isolation for multi-threaded process lifecycle management
- Achieved 100% pass rate across 9+ QEMU regression tests by building a TCP/UDP network stack featuring IP fragmentation, sliding-window retransmission, and out-of-order buffering

City Beats: WiCS Hackathon, Best Hack Winner | Node.js, React, PostgreSQL, REST APIs

Feb. 2026

- Developed a Node.js and PostgreSQL backend integrated with Google Maps API for real-time tracking
- Built a chatbot to parse natural-language queries, using information retrieval to provide event details for users

LEADERSHIP

E-Nable, Software Development Engineering Lead

Jan. 2026 - Present

- Built a web platform used by 100+ students to optimize 3D-print scheduling and streamline large file management
- Implemented real-time queue management using JavaScript and Firestore to deliver live status updates, utilizing Google Cloud Functions to automatically resolve booking conflicts
- Collaborated in an agile development environment with product and design teams, coordinating 5 developers to align on feature requirements and translate prototypes into a production-ready platform