

# AAYUSH K. SHARMA

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## Education

### Texas A&M University

B.S. Applied Mathematics, Computer Science Emphasis

College Station, TX

August 2022 – Present

- **GPA:** 3.62
- **Relevant Courses:** (Graduate) Math Statistics | Linear Algebra II | Data Structures and Algorithms (C++)
  - **Numerical Methods:** iterative, non-linear, & convex optimization + linear & semidefinite programming
  - **(Grad) Optimization I & II:** Convex, Semi-definite, and Linear Optimization; Proofs based and in MATLAB

## Skills & Interests

**Skills:** Languages: JavaScript, PSQL, C, C++ | Frameworks/Libraries: ReactJS, Express.js, Node.js | Tools/Cloud: Azure AI Foundry & Logic Apps, M365 Suite, Power BI, Git, PostgreSQL, Spotify API | Methodologies: Agile, Project Management

**Interests:** Machine Learning, Data Science, Web Design, UX/UI, Full-Stack Development

## Professional Experience

### CSCE 206 | Structured Programming in C

Teaching Assistant

College Station, TX

December 2023 – May 2024

- Teaching assistant (TA) for CSCE-206—a course over *structured, object-oriented programming in C*—precursor for later *systems design, operating systems, and programming languages* courses.
- **Developed automated systems** (Python & Bash) to completely handle the grading of projects and assignments, **cited** as "vital" for freeing up TA and professor resources to shift towards *assignment design and teaching*.

### Valiant Residential | Business Intelligence

AI Integrations Engineer

Dallas, TX

May 2025 – August 2025

- **Built** and shipped two **GPT-4.1 agentic** apps that augment BI reports with conversational analysis, enabling end users to ask follow-ups and surface insights directly in the reporting workflow.
- **Designed a modular agent architecture** (tool-calling, SQL execution, retrieval) with plug-and-play connectors for any future SQL database that standardized schemas and guardrails for safe query generation.
- **Drove** the project end-to-end—**needs discovery, rapid prototyping, hardening, and rollout**—aligning with existing enterprise architecture and data governance.
- **Operationalized handoff** by writing developer/ops docs and running training sessions; ensured maintainability and ownership transfer to the BI team.

## Projects & Outside Experience

### Album of the Week (tamuaotw.com) | Automation Committee

Technical and Product Design Lead

College Station, TX

December 2023 – Present

- **Chairing** the Software Development team, directing a team of *four* as **senior developer, design lead,** and **first-responder** for 15,000+ lines of *Linted* code that delivers weekly club functions for 180+ club members.
- **Streamlined** the process of album selection for Album of the Week (Aotw)—a weekly book club for music—by building **autonomous** and **redundant** processes for album nomination and voting via *Cron* tasks in an *Express.js* server + *PostgreSQL* database, resulting in 0.25% downtime over the last year.
- **Constructed** the club website that hosts album selection processes using the *Express.js* backend that connects to a *JavaScript* (primarily *ReactJS*) frontend: *leveraging Spotify RESTful API* and *Google Identity* to deliver a seamless experience for 50+ *Daily Active Users*.
- **Authored** custom *Agile-inspired* continuous project-management framework, while **overhauling** existing CI/CD systems using *GitHub Actions* to deliver 20% increased est. project velocity.
- **Pioneered** custom *group technical interview* that measures *leadership* and team dynamics, *project management* skill, technical proficiency, *management of AI tools*, and the overall expression of *tangible* and *intangible SWE skill* in candidates. **Resulted** in key *hiring insights* for the Executive committee and quoted as **vital** for gauging "the whole picture and skillset" of interviewees.
- **Lead** integration of **AI-assisted** development tools (*Cursor, Vercel AI, and Wolf*) into the build, and deployment workflow to **accelerate** iteration speed, enforce design consistency, and prototype front-end components with greater efficiency, causing an 17% increased est. project velocity..