ELI ROSE

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SUMMARY

Software engineer and part-time M.S. Computer Science student at Georgia Tech (B.S., University of Arkansas). Led the data backend for a GM-sponsored capstone that took 1st place in CSCE, building the scraper, database, and preprocessing pipeline for 18M+ telemetry samples. Set up a Linux home server that now hosts its dashboard and a personal website. Growing focus on low-level programming and operating systems.

EDUCATION

MS in Computer Science | Concentration in Machine Learning — Part-time | Expected August 2028
Georgia Institute of Technology (Online - OMSCS)

- *Relevant Coursework:* Robotics: Artificial Intelligence Techniques, Reasoning in LLMs and Agents (Graduate Seminar)

BS in Computer Science | Minor in Mathematics — Graduated May 2026
University of Arkansas, Fayetteville, AR

- *Relevant Coursework:* Data Structures, Algorithms, OOP, Databases, Networking, Machine Learning, Version Control
- *Awards:* **1st Place, CSCE Enrichment Fund** ($1,000) | **1st Place (CSCE), College of Engineering Expo** (2026)
- *Honors:* Invited presenter, CSCE Alumni Conference (2026) | Governor's Distinguished Scholarship (2022)
- *Leadership:* Club Spikeball RSO **President (2025 - 2026)**, Vice President (2024 - 2025), Secretary (2023 - 2024)

TECHNICAL SKILLS

- *Programming Languages:* Python, C, C++, Java, SQL, Bash
- *Databases & Data:* PostgreSQL, MySQL, SQLite, Pandas, NumPy, Scikit-learn, K-Means, PCA
- *Systems & Infrastructure:* Linux, Docker, Nginx, AWS (EC2), TLS/HTTPS, Cloudflare Tunnel, OpenSSL
- *Robotics & Estimation:* State estimation, localization, Kalman filters, particle filters, motion models
- *Developer Tools:* Git, GitHub, SSH

PROJECTS

F1 Telemetry Data Pipeline, *Capstone Project - **1st Place*** — September 2025 - May 2026

- Led backend for a GM-sponsored team of 6, writing the Python pipeline and database for **18M+** telemetry samples
- Fixed **3** failed overnight loads (a full disk, a missing race key, ID collisions on rerun) to load all **26,692** laps
- Split 2 PostgreSQL tables into **48** and added B-tree indexes, cutting full-season pulls from over 10 minutes to **15-20s**
- Used PCA to cut each lap from **4,000** values to **2,000** or **2,500**, then clustered laps into **5** driving styles with K-Means

Dockerized HTTPS Web Server, *Technical Challenge* — April 2026

- Built a Docker and Nginx HTTPS server in **12 days** after starting with no prior experience in either tool
- Automated deployment to one command with **4** Bash scripts and checked redirects and TLS handshakes with curl

Satellite Particle Filter, *Georgia Tech Robotics Course Project* — October 2026

- Wrote a Python particle filter that localized a spacecraft to **0.01 AU** from noisy sensors, passing **18/20** test cases
- Debugged a filter that would not converge and found the sensor variance was set **100,000x** too high
- Met a **15s** CPU limit with O(N) resampling and a particle count that shrank from **2,000** to **250**

Asteroid Kalman Filter, *Georgia Tech Robotics Course Project* — September 2026

- Ran a Kalman filter per asteroid and used the predictions to plan jumps home, passing **30/32** test cases

WORK EXPERIENCE

Best Buy - Geek Squad, *Counter Agent*, Fayetteville, AR — August 2026 - Present

- Trace hardware and software faults (boot, drivers, malware) to root causes on Windows, macOS, iOS, and Android
- Log each diagnosis in the service ticketing system and escalate hardware failures for depot repair