Eshaan Sood

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Education

University of Illinois, Urbana-Champaign **August 2023 – May 2027**

Bachelor of Science in Computer Engineering, GPA: 3.60 *Champaign, IL*

Relevant Coursework: Data Structures; Numerical Methods; Computer Systems Engineering (OS); Analog Signal Processing, Game Development, Interactive Computer Graphics, Linear Algebra with Computational Applications

Professional Experience

Aevra **October 2025 – Present**

Co-Founder *Chicago, IL*

- Built an automated treatment-plan engine that reduced dentist workflow time by **~80%**, processing plans in **<5** minutes instead of hours.
- Deployed a **FastAPI** + AWS backend **(EC2, Cognito, S3)** to generate comprehensive dental care plans based on PHI-compliant reports.
- Augmented the React-based client with a **Nano Banana Pro API** to generate a realistic expectation for a completed treatment plan.

Simplify Tech **June 2025 – August 2025**

Software Automation Intern *New York City, NY (Remote)*

- Designed and deployed automation systems using Python- and API-driven workflows, cutting client operational workload by **50–70%** and generating **$15K–$40K** in annual savings per client.
- Engineered **workflow-mapping and data-processing pipelines** to identify bottlenecks, reducing manual processing time by **~65%**.
- Implemented **end-to-end solution delivery**, including requirements gathering, iterative development, and deployment, improving onboarding speed by **30%** while maintaining **100%** client satisfaction.

WaggleNet **September 2024 – September 2025**

Research Intern *Champaign, IL*

- Built a C++ computer vision pipeline using **OpenCV, Libtorch, and TensorFlow** for bee detection and tracking, improving accuracy by **45%** through model and inference optimization.
- Reduced false-positive detections by **30%** via quantitative error analysis, threshold calibration, and temporal filtering on large-scale field data.
- Integrated **embedded sensing hardware** with real-time C++ inference workflows, increasing research reporting throughput by **25%**.

Leadership & Projects

National Organization of Business & Engineering | *Jira, Confluence* **September 2025 – Present**

- Led a **12**-member consulting team for a drone-technology startup, delivering **100%** on-time execution and improving strategic decision workflows by **40%.**
- Performed market sizing and competitive benchmarking across **20+** firms, identifying **3** market-entry opportunities projected to increase **TAM capture** by **25%.**

AI Assistant Headset | *Python, Flask, OpenAI* **February 2025 – Present**

- Developed a 360 AI assistant headset with real-time perception, achieving **85%+** accuracy through **low-latency Flask inference pipelines**.
- Architected a hardware–software system, reducing power consumption by **30%** and enabling **6+** hours of on-device operation.

Custom Unix Operating System | *C, RISC-V, Assembly, QEMU, GDB* **October 2025 - December 2025**

- Led a team of 3 to architect and implement a modular Unix-like kernel from scratch, featuring a **VirtIO-based block device** for persistent storage and clear separation of kernel subsystems.
- Implemented **virtual memory** with **Sv39 paging** and **preemptive multitasking** for multi-process support.
- Integrated **filesystem abstractions**, including file and device IO, user-mode syscalls, and process management, and piping for process-to-process communcation protocols.

Technical Skills

Languages: Python, C/C++, Java, JavaScript, HTML/CSS, RISCV Assembly, SQL
Developer Tools: Git, Docker, VS Code, KiCAD, GDB, QEMU
Libraries: Pandas, NumPy, SciPy, SymPy, Matplotlib, NLTK, BeautifulSoup, PyTorch, OpenCV