Mordecai Mengesteab

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EDUCATION

North Carolina State University | Raleigh, NC   **August 2024 - June 2028 (Anticipated)**

PROFESSIONAL EXPERIENCE

Principal Engineer | Programming Subteam | NCSU Liquid Rocketry   **September 2024 - Present**
- Design responsive mission control UI, improving system performance by **70%**.
- Lead frontend optimization initiatives, resulting in an **80% potential reduction** in data rendering times.
- Enhance the mission control UI with interactive features, including drag-and-drop components and real-time data annotation, increasing test productivity by up to **60%.**
- Pioneer the use of **Redis** for real-time communication between the frontend and backend, allowing **sub-millisecond latency** for critical telemetry and anomaly detection.

Technical Specialist | Apple   **July 2024 - Present**
- Provide technical support and troubleshoot Apple products, resolving hardware and software issues for customers.
- Conduct workshops and training sessions for customers on Apple product features and best practices.
- Assist with device repairs and diagnostics, effectively communicating technical information to both customers and colleagues.

Software Engineering Intern | Ultisim   **August 2023 - March 2024**
- Addressed technical challenges such as integrating real-time data feeds into Digital Twin systems, **improving system reliability by 30%.**
- Rapidly adapted to new technological tools, including 3D simulation environments and predictive modeling frameworks, **reducing project ramp-up time by 15%.**
- Ensured high-quality outputs through thorough testing and refinement, achieving a **90% user satisfaction rate** and a **20% reduction** in post-launch issues.

INDEPENDENT EXPERIENCE

MyFitnessPack   **August 2024 - Present**
- Developing a cross-platform **React Native** fitness app in private beta, integrating workout "packs" and check-in streaks to gamify exercise routines and track gym availability.
- Leading research into visual segmentation techniques using **YoloV10, PyTorch, and Docker** to monitor real-time gym equipment usage, aiming to live update the app with gym occupancy data.
- Building core functionality for check-ins and packs, with plans to expand through partnerships with university wellness and recreation departments for activity tracking and increased campus wellness participation.

Universitrack   **July 2023 - Present**
- Designed and developed Universitrack, a web application to help **over 100 students** track college applications and leverage **generative AI** for essay writing, along with deterministic techniques for recommendations and assistance.
- Led the end-to-end development process, from conceptualization to deployment using **React, PostgreSQL,** and **Golang**
- Implemented **CI/CD** with **AWS**, optimizing edge functionality for queries, improving user experience through reduced latency.

LEADERSHIP EXPERIENCE

Student Senator | North Carolina State University   **September 2024 - Present**
- Spearhead the **Information Age Campus** initiative by **integrating digital platforms** to streamline student services such as class registrations, event sign-ups, and campus facility access.
- Champion **campus safety improvements** by proposing the implementation of 24-hour lighting and other well-being enhancements to foster a safer environment, with ongoing plans for a **Smart Safety System** to better allocate resources.

Conference Speaker | SparkNC | North Carolina State University   **July 2023**
- Participated as a speaker in front of 100+ students and industry professionals in a panel on the future of generative AI in education, effectively communicating complex ideas on generative AI and its applications in education.
- Collaborated with experts to develop practical, innovative approaches to integrating AI in educational practices.