MATTHEW DAVIDSON

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EDUCATION

Texas A&M University August 2021 – May 2025

Pursuing B.S. in Computer Engineering GPA: 3.47

EXPERIENCE

Texas A&M Sounding Rocketry Team August 2023 – Present

Payload Team Member

- Designed a synthetic aperture RADAR payload designed to operate at a range of up to 500 meters to collect flight data for the team's upcoming rocket
- Calculated various figures of merit for the planned RADAR payload to optimize performance within strict design constraints
- Aided in the modification and testing of a real-time camera streaming payload and helped improve battery life by over 3 hours

Texas A&M Engineering Business Office February 2022 – Present

Student Worker

- Maintain job responsibilities for 12 hours per week, alongside a busy academic schedule
- Process 10+ invoices daily and handle any problems that arise in the business process
- Assign purchase orders to faculty and staff within 15 minutes to maintain efficient operations
- Reduced invoice processing time by 25% using available tools and software

PROJECTS

Pseudo-3D Game Engine December 2022

- Created a 2.5-D raycasting game engine from scratch in Java without the use of external libraries
- Implemented additional features such as textures, non-player entities, and adaptive audio system
- Designed to run single-threaded and CPU-only to allow porting to low-power devices

Conway's Game of Life February 2021

- Implemented Life on a fixed-size, periodic universe, allowing for simple, fast, and accurate simulation
- Modified the original program to run in a text-only shell using Java's process control API

Nearest Plane App November 2020

- Command line app that connects to the OpenSky API to determine the nearest aircraft to any location in the world and report its flight telemetry in a presentable format
- Built a modern web UI to improve the user experience and simplify documentation

TECHNICAL SKILLS

Software: Python, C/C++, Java, MATLAB, JavaScript, TypeScript, Rust, Assembly, Git

Hardware: LTSpice, Verilog

Interests: Embedded systems, low-level programming and optimization