THOMAS TRAN

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EDUCATION

University of Michigan College of Engineering **Ann Arbor, MI**
Bachelors of Science in Computer Engineering *Aug. 2023 - Dec. 2025*

- **Selected Coursework:** Introduction to Logic Design, Computer Organization, Introduction to Electronic Circuits, Introduction to Signals and Systems, Programming and Intro Data Structures, Digital Integrated Circuits
- **Campus Involvement:** Michigan Aeronautical Science Association(MASA) Avionics Project Member

University of Michigan Dearborn **Dearborn, MI**
Bachelors of Science in Computer Engineering *Aug. 2021 - Aug. 2023*

TECHNICAL SKILLS

Languages: C++ 20, C 17, Python 3.11, Verilog, ARM, X86
Software: Microsoft Office, Cadence Virtuoso, SPICE, CAD, Matlab, Matlab Simulink, Quartus, ModelSim, Altium
Libraries, Tools, Technologies: CMake, GDB, JSON, openFrameworks, Linux, Git, MacOS, Windows

PROJECTS

High-Altitude Rocket Avionics Radio System

- Driving development of 2.4GHz LoRa-based telemetry system in a 10+ person Avionics subteam for real-time rocket flight data transmission, using dual-antenna ground station to enhance signal reception at altitudes up to 75,000 feet
- Orchestrating integration of radio systems with microcontroller firmware to achieve 40Kbps telemetry data rate
- Conducting RF link budget analysis and antenna optimization to meet mission-critical communication specifications

Register-transfer level Four Function Calculator - LINK

- Engineered a Verilog-based four-function calculator on a DE-115 board, processing 11-bit two's complement integers
- Implemented input by using push-buttons and switches for basic arithmetic, with outputs displayed on 7-segment displays, achieving operational accuracy through verification on hardware testing and ModelSim simulations

Traffic Light Controller - LINK

- Designed a complex traffic light controller system in Verilog, managing multiple scenarios and sensor inputs
- Constructed a finite state machine (FSM) to handle various traffic conditions and timing logic
- Optimized timing logic to control light durations and prevent traffic conflicts, improving overall system efficiency

Vehicle Cruise Control Simulation

- Developed a Simulink-based simulation of a cruise control system, applying principles of control theory to model vehicle dynamics, achieving performance optimization with minimized steady-state errors and controlled oscillations
- Implemented control methods (Proportional, PI, PID) to analyze system responses under different conditions

Data Memory and Cache Simulator

- Built a CPU cache simulator in C++, accurately modeling processor execution of assembly-language programs
- Implemented a write-back, allocate-on-write cache policy with least-recently-used replacement, optimizing cache access

EXPERIENCE

Michigan Aeronautical Science Association(MASA) **Ann Arbor, MI**
Avionics Project Member *Sept. 2024 - Present*

- Cooperate in a 5-member Avionics sub-team on a radio project development for rocketry application
- Usage of Altium for design and implementation of communication systems for high-altitude rocket

Kura Sushi Novi **Novi, MI**
Server *Jul. 2022 - Mar. 2023*

- Collaborated with a diverse 4-member rotating team to exceed monthly sales targets by an average of 5%
- Resolved customer concerns efficiently, maintaining a 87% satisfaction rate based on feedback surveys
- Adapted to peak hour rushes, serving up to 20 tables per day while maintaining quality service standards