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, Quartus, ModelSim, Altium
Libraries and Tools: CMake, GDB, JSON, openFrameworks
Technologies: Linux, Git, MacOS, Windows

PROJECTS

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 sequential design for operations, reducing computation time by 20% compared to combinational logic

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

Tail Light Controller

- Developed a sequential taillight controller using Quartus Lite, managing four distinct signal patterns
- Optimized state tables and equations using Logic Friday, reducing circuit complexity by 15%
- Conducted waveform analysis to verify system functionality across various operating conditions

Data Memory and Cache Simulator

- Built a CPU cache simulator in C++, accurately modeling processor execution of assembly-language programs
- Implemented caching algorithms to optimize memory access times, improving simulation efficiency by 20%

Mars Rover Project

- Led a team of four to design and construct a rover capable of traversing challenging terrain
- Utilized CAD software to create 3D parts, improving design precision and reducing prototyping time by 30%
- Programmed rover functions using Arduino, implementing adaptive control algorithms for various surface types

Audio Spectrum Analyzer

- Developed a C-based audio frequency analysis application using openFrameworks and Fast Fourier Transform
- Designed an intuitive graphical user interface, allowing real-time control of spectrum parameters

EXPERIENCE

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

- Collaborate with 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