Thomas Landzaat

tomlandzaat562@gmail.com | linkedin.com/in/tomlandzaat | github.com/Tom-Landzaat

Education

Oregon State University	Expected Mar 2026

Bachelor of Science, Electrical and Computer Engineering   4.0 GPA
Minor in Computer Science
Relevant Courses: Digital Logic Design, Electronics, Signals and Systems, Computer Architecture, Operating Systems, VLSI

Projects

FPGA Alarm Clock (FPGA, System Verilog, Quartus, ModelSim)   April 2024 – June 2024
- Worked closely with two other students to co-design and program a 50 MHz FPGA-based alarm clock using SystemVerilog
- Developed modular components for ease of integration in Quartus
- Validated accurate timing and alarm triggering through ModelSim simulations

ESP32 Temperature-Controlled Smart Aquarium Heater (C++, ESP32, IOT, Sensors, Soldering)   Oct 2024 – Nov 2024
- Flashed smart plug running Esp8266 with custom firmware (Tasmota)
- Configured the ESP32 with a temperature sensor and established mesh networking for seamless device communication such as toggling the smart plug based on the aquarium temperature
- Eliminated the need for an external MQTT broker by utilizing direct HTTP commands within the mesh network also increasing the reliability of the system when presented with unexpected power loss

Optimal Speaker Project (Bode Plots, LTSpice, Soldering)   April 2023 – June 2023
- Designed and built low-pass, high-pass, and band-pass filters using calculated cutoff frequencies of 200 Hz and 6 kHz, ensuring optimal performance for specific speakers (subwoofer, midrange, and tweeter)
- Carefully simulated filter designs in Spice, verifying performance with Bode plots and buying the correct components to build accurate filters
- Soldered components for all three filters onto a PCB and connected filters to their respective speakers, providing sinusoidal inputs to all filters to validate frequency separation and filter functionality

Experience

Sustainability Technician, Oregon State University – Corvallis, OR   Nov 2024 – Present
- Reviewed construction documents and documented equipment including VFDs, air handlers, controllers and UPCs
- Diagnosed and resolved HVAC issues using the online control system and physical measurements to serve numerous facilities at Oregon State including athletics, classrooms, laboratories and the veterinary hospital

Head Lifeguard and Aquatics Maintenance, City of Corvallis – Corvallis, OR   June 2021 – Present
- Managed shift rotations for lifeguards, optimizing staff coverage and complying with all regulations
- Proactively identified maintenance needs and documented customer feedback to keep the facility safe and resolve issues in a timely manner
- Applied skills from pool operator certification to monitor and adjust water chemistry, including pH, chlorine, calcium hardness and alkalinity levels, to meet and exceed all health and safety regulations

Skills

Programming Skills: C, C++, SystemVerilog, Assembly
Hardware: FPGA, Arduino, ESP32, Sensors
Tools & Software: Quartus, ModelSim, MATLAB, LTSpice, Excel, KiCad, Oscilloscopes
Other Skills: Signal Processing, Circuit Design, Soldering, VLSI, PCB Design