MATHIAS LABUSZEWSKI

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EDUCATION

Bachelor of Science - Electrical And Computer Engineering • *University of Colorado Boulder*
Boulder Colorado • Expected in May 2025

- 3.5 GPA
- Relevant Coursework: Digital Logic, Circuits 1&2, Embedded Software, Computer Graphics, Wireless Systems, PCB Design and Manufacturing
- Boring Club Member
- CU Racing Team Member

SKILLS

C/C++, Python and Lua
Debugging embedded systems
Eclipse, Vim, MATLAB, Vivado, Slack, LTSpice, Altium
Svn, Git
OpenGL 1.0-3.3
PCB Design and Manufacturing
Analytical and problem-solving skills
Ability to work independently and as part of a team
Ability to manage time effectively
Effective communication of complex technical concepts

WORK HISTORY

Teaching Assistant • *Digital Logic*
CU Boulder • August 2023 to Current

- Skilled in Verilog, providing guidance and support to students in Verilog programming with Vivado.
- Troubleshoot and resolve technical issues related to the Basys3 FPGA, Vivado, and Verilog.

Teaching Assistant • *Embedded Software Engineering*
CU Boulder • December 2022 to Current

- Assist students in the development and debugging of embedded software applications.
- Proficient in C programming, providing expert guidance to students.

Course Redeveloper • *Embedded Software Engineering*
CU Boulder • May 2023 to August 2023

- Developed comprehensive code for all lab exercises, allowing students to gain hands-on experience.
- Authored and provided documented driver code for students to incorporate into their final projects.
- Transitioned course from EFM32 microcontrollers to STM32 microcontrollers.
- Collaborated with engineers from Western Digital

PROJECTS

Internet-Controlled Robot with ESP32 :

- Designed and developed a remotely controllable robot utilizing an ESP32 microcontroller

40-Meter Band Ham Radio Transmitter and Receiver

- Constructed a 40-meter band ham radio, featuring a superheterodyne-type receiver

STM32-Based Display and Touch Screen Interface

- Utilized STM32's LTDC, SPI, and I2C peripherals to communicate between microcontroller and display/touch components.

Custom Arduino PCB Design for Noise Reduction

- Designed and assembled a customized Arduino platform using best practices to minimize noise and enhance signal integrity.

3D Noise Visualizer in OpenGL 3.0

- Implemented marching cubes algorithm to create immersive and dynamic visual representations of 3D noise data.