

STEPHEN MORE

(+1)503-509-1490 ◊ mores@oregonstate.edu

EDUCATION

Oregon State University
B.S. Department of Electrical and Computer Engineering

September 2017 - Present

PROJECTS

Matlab Image Processing

Wrote a Matlab image processing algorithm to capture images from camera, calibrate the camera, perform inverse perspective mapping and perform coin recognition to return [X,Y] coordinates of coin centers in meters. The algorithm also allows users to see filters of the image processing including color analysis, edge detection, object detection, and optical flow vectors.

Matlab GPU Coder to Nvidia Jetson Nano

Used Matlab GPU Coder to create C++ and Cuda code for the previously mentioned Matlab image processing algorithm on an Nvidia Jetson Nano platform. Once .elf executables were generated I made a python GUI using tkinter which allowed for users to execute desired image processing function with ease.

DE-1 SoC FPGA to HPS Communication

Used Qsys (now called Platform Designer) to allow for FPGA logic blocks to communicate with ARM Cortex A9 HPS on DE-1 SoC. Flashed HPS with test ARM assembly code, taking on board switch input from FPGA and using HPS to turn on LED corresponding to switch.

Remote to Robot Communication

Wrote and implemented AVR assembly code for USART IR transmission between ATmega128 microcontrollers. Used one chip as remote which transmitted to robot receiver chip. Each transmission contained 16 bits, the first 8 bits being the bot ID code, followed by the 8 bit action code for the desired bot function.

TECHNICAL SKILLS

EE: SystemVerilog, FPGA, Quartus, Qsys, ModelSim, IAR, CrossWorks, Eagle
CS: MATLAB, C/C++, GDB, Python, UNIX, Git, LaTeX, Assembly

WORK EXPERIENCE

Ideas For Business LLC

Embedded Systems Engineering Intern

Lake Oswego, OR, June 2019 - August 2019

- Designed a rowing form assist using an embedded microprocessor, time of flight sensors, and LED strips.
- Ported design from one embedded IDE to another.
- Implemented design using SPI DMA and UART data transmission methods.

OPeNS Lab

ECE Designer for eDNA Sampler

Corvallis, OR, January 2020 - present

- Debugged analog hardware issues involving voltage drop during open drain switching.
- Collaborated with Mechanical Engineering and CS team members to test and connect different blocks of the project.
- Documented project via posts on github.

ACADEMIC ACHIEVEMENTS

2018 First Place, HWeekend, Oregon State University

- Robotic gardening system using environmental sensors, servos, and lights to control climate.
- Performed hardware and software implementations.

EXTRA-CURRICULAR

Member of Global Formula Racing autonomous driving division of with focus on FPGA driven image processing, 2020 - present.
Member of Inventors Enterprise Engineering Club in 2018.