

# TOMAS MCMONIGAL

541-579-0852 ◊ mcmonigt@oregonstate.edu ◊ 3019 NW Orchard Ave, Corvallis, OR 97330

## EDUCATION

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### Oregon State University

Senior Undergraduate

Honors Bachelor of Science

Major in Electrical & Computer Engineering, Minor in Computer Science

OSU GPA: 3.72

Degree Anticipated June 2020

## TECHNICAL STRENGTHS

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### Computer Languages

C/C++, Assembly, Bash, Python, SystemVerilog

### Software & Tools

Embedded Systems, OpenGL, L<sup>A</sup>T<sub>E</sub>X, Linux, Intel Quartus, Matlab, Qt

## RELEVANT COURSES & PROJECTS

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- Microcontroller System Design
- VLSI System Design
- Multimedia Systems
- Computer Architecture
- Wireless Communications
- Software Engineering
- Operating Systems
- Computer Graphics

### Honors Thesis Project & Robotics Club - Aerial Team

Fall 2019 - Present

Currently working on the development of an automated hexacopter for the AUVSI SUAS 2020 competition. One of the main challenges is to make the drone fly itself through a virtual obstacle course. My task is to program the autonomous motion software and create a 3D GUI to display the flight path - using C++ and Qt. The GUI will also make use of the telemetry system to display its current position in real time. Professor Robin Hess is my mentor for this project.

### Senior Design Project

Fall 2019 - Present

After building a USB Oscilloscope for my Junior Design Project, Intel contacted my partner and I through their FPGA Academic Program to offer their sponsorship. Leah Lindblom from Intel's Product Marketing Department in San Jose currently serves as our client for our Senior Design Project, a Digital Storage Oscilloscope. The main goal is to increase the sampling rate from 1 Msps to 10 Msps and output to an LCD touch screen connected to the DE1-SoC Development Board.

## WORK EXPERIENCE

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### Teaching Assistant

January 2018 - December 2018

*Electrical Fundamentals*

- Led two lab sections with 24 students each
- Held office hours for a class of 300+ students and graded exams, quizzes, and lab reports

## ACADEMIC ACHIEVEMENTS

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OSU Honor Roll - Fall 2017, Winter 2018, Spring 2018, Fall 2018, Winter 2019, Spring 2019, Fall 2019  
Glenn Holcomb Scholarship - Awarded for the 2017-2018 school year

Knaus Electrical Engineering Scholarship - Awarded for the 2018-2019 school year

Ritter, T Scholarship - Awarded for the 2019-2020 school year

## PERSONAL SKILLS

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**Languages**      Fluent in English and Spanish

**Soft Skills**      Problem Solver, Team Player, Energetic, Enthusiastic, Excellent Communicator