

David F. Vella

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EDUCATION

University of Michigan, Ann Arbor, MI

Aug 2019 – Dec 2022

Bachelor of Science in Engineering - BSE, Computer Science

GPA: 3.97 / 4.00

Relevant Coursework:

Data Structures and Algorithms, Computer Organization and Assembly Language, Autonomous Systems, Programming and Elementary Data Structures, Digital Logic Design, Electronic Circuits

EXPERIENCE

All Covered IT Services, Farmington Hills, MI

May 2020 – Aug 2020

Deployment Team Member

- Worked on a team to install software on a variety of platforms including Windows 10, macOS, iOS
- Developed shell scripts that interact with inventory system APIs to automate workflows

FIRST Robotics FRC Team #67, Milford, MI

Jan 2015 – Apr 2019

Electrical and Controls Lead

- Led students through the design and assembly critical electrical system components
- Hands on experience with PWM, CAN, Encoders, IMU's, and cameras for robotics applications

PROJECTS

Linux System Monitor Application

Aug 2020

- Created an application for monitoring CPU temperature and fan speed on Linux machines using Qt
- Implemented algorithms in C++ for efficient real time plotting of sensor data

Flight Controller for Radio Controlled Aircraft

Apr 2020

- Designed a complete embedded control system. Wrote software libraries to interface I2C/UART devices
- Developed and implemented control algorithms in C++ for autonomous cruise, takeoff, and landing

Lightweight IMU Software Library

Mar 2020

- Developed a software library to compute orientation from raw gyroscope and accelerometer sensor data
- Implemented quaternion math operations in C++ to accurately track orientation in real time

Snake Game Web Application

Dec 2019

- Implemented snake in a Flask web app with Python backend and JavaScript/HTML/CSS frontend
- Designed an API allowing the game client to post scores to a leaderboard for friendly competition

SKILLS

Computer Languages: C++, C, Python, MATLAB, Verilog, Javascript, HTML/CSS

Technologies: Git, Bash Shell, GCC, GDB, SSH

Platforms: Ubuntu Linux, Windows 10, ARM, AVR

IDEs: Visual Studio, Visual Studio Code, MATLAB, Vim

ACTIVITIES

Michigan Ski Club

Aug 2019 – Present

Piano

2006 – Present