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

ACTIVITIES

Michigan Ski Club *Aug 2019 – Present*
Piano *2006 – Present*