Zack Gunther

Computer Systems Engineering Major

CONTACT INFO
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EDUCATION

Rensselaer Polytechnic Institute — Troy, NY

September 2019 - Current
Pursuing degrees in Computer Systems Engineering and Computer Science
GPA - 3.62
Embedded Hardware Club - Lab Officer

WORK EXPERIENCE

Cree — Durham, North Carolina

Automation and Controls Engineering Intern - Summer of 2020
Coded and implemented GUI applications for data analysis and factory automation
Used SQL Server tables, views, and store procedures for sending and saving data to and from applications
Worked with technicians and other engineers to finalize applications for widespread use
Extensively used Visual Studio for coding in VB.Net, C#, C++, and Python

Riverbend Property Management — Farmington, ME

Construction Laborer - Summer 2019
Painted houses, apartments, and installed flooring

Town Of Industry — Industry, ME

Boat Inspector - Summers of 2017, 2018, 2019
Inspected boats at Clearwater Pond for invasive plants and animals

RELEVANT EXPERIENCE

Coding

- **C#, VB.Net** - Coding GUI Applications for automating and controlling tools
- **C++** - Coding programs for data analysis which require higher speeds and custom memory management
- **Python** - Function prototyping, audio recording, waveform analysis, manipulation, and playback
- **C** - Arduino and microcontroller coding
- **SQL Server** - Creating and modifying tables, views, and stored procedures

Electrical Circuitry

- Designing, prototyping, testing, debugging, and soldering circuitry
- Audio digital and analog power amplification using basic analog components
- Analog filtering, equalizing, and modulating of audio for live sound applications
- Low and high side MOSFET driver circuitry for high power (full and half) H bridge output circuitry
- Wireless power transmission and low power induction heating devices

Embedded Control

- Wireless data transmission using UDP and TCP protocols using ESP8266 microcontrollers
- I2C communication between microcontrollers such as Arduino's and Raspberry Pi's
- Custom analog to digital converters using successive approximation methods for audio sampling
- PID motor control for precision movement and stabilization of small vehicles and aircraft

Software

- **Visual Studio IDE** - Used for coding in VB.net, C#, C++, and Python
- **Fusion 360 by Autodesk and NX by Siemens** - General drafting of 3d parts and assemblies
- **LTspice** - Simulating circuits such as amplifiers, RLC circuits, etc.
- **Microsoft Office** - Experience with Excel, Word, and PowerPoint
- **Matlab** - Matrix manipulations for nodal analysis of circuits and data analysis

EXTRACURRICULAR - Music

- Led a rock band in high school and learned valuable leadership and communication skills
- Played violin in multiple performing orchestras as well as performed at weddings