

School Address:
100 Institute Road
Box 6056
Worcester, MA 01609

Mitchell Jacobs

mitchell@mrj.design
(845) 721-5637
www.mrj.design

Home Address:
12 Lt. Crawford Wheeler Ct.
Blauvelt, NY 10913

OBJECTIVE

Internship Focusing on Electrical/Computer Engineering with a Theatrical Component

EDUCATION

Worcester Polytechnic Institute, Worcester MA, May 2022 GPA 3.5

Bachelor of Science in Electrical and Computer Engineering

Tappan Zee High School, Orangeburg NY, June 2018

SKILLS

Engineering: Project Management, Electrical Design, PCB Design(Eagle and Altium)

Programming Languages: C, C++, Java, Python, MATLAB, adaptable to new languages

Equipment: Arduino, Teensy, Audio Consoles, OSC Networking, Exposure to ARM Processors

Relevant Coursework: Software-Defined Radio Systems and Analysis, Digital Circuit Design, Sensors Circuits and Systems, Computer Networks, Micro-Electronics, Introduction to Robotics, Various Computer Science Classes

PROJECTS

MITRE Embedded Capture the Flag Challenge, WPI, January 2021 – April 2021

- Competed on a 5 member team consisting of myself, 2 graduate students, 1 PhD candidate, and one Professor
- Developed a secure communication protocol while adhering to the provided design constraints
- Attacked other teams communication protocols testing for confidentiality, integrity, and authentication
- Applied classroom knowledge and research to develop the solution on an embedded platform

Quadruped MQP Project, WPI, September 2020 – June 2021

- Responsible for the design and implementation of the power system of the robot
- Designed and implemented a high speed communication protocol allowing for a distributed computing approach to the project
- Designed custom PCB for Encoders and Control Board Interface
- Developed hardware and low level code, wrapping the hardware level protocols

“Lights Up, A Musical Cabaret” , WPI, Producer, March 2020 – October 2020

- Produced a musical theatre production during the COVID-19 pandemic
- Adapted the format of the production multiple times throughout the planning and execution, as circumstances changed, insuring all 45 participants stayed engaged
- Collaborated with administration to create an approved safety plan, allowing the production to proceed in the adapted format
- As quoted in Shining a Light on WPI Theatre - “*Lights Up* saw students performing while wearing face coverings and with a barrier separating them from those who were working on behind-the-scenes tech. Each performance was shot separately; those that look like two students are sharing space were filmed asynchronously for safety and then superimposed in post-production. After months of adjustments, planning, and out-of-the-ordinary rehearsals, the show was streamed on VOX’s website for the first weekend in October”

FIRST Robotics Tappan Zee HS, Founder and Captain, September 2017–August 2018

- Established and lead a FIRST robotics team comprised of over 50 members
- Insured proper allocation of funds in excess of \$30,000 based upon the team’s goals
- Designed and Built a 120lbs. robot in 6 weeks
- Responsible for specific electrical and programming tasks while overseeing the entire project
- Won Rookie All-Star Award at the local level and at the world championship

CyberAuto Challenge, Warren Michigan, July 2017

- Researched real solutions to the challenges posed by cybersecurity in automobiles

WORK EXPERIENCE

Project Engineer, Bertussi's Plumbing and Contracting, Pearl River NY, Summer 2020

- Helped manage multiple simultaneous multi-million dollar school renovation projects
- Facilitated communication between the field crews, office staff, and architects
- Developed RFIs for contract clarification
- Worked with manufacturers to write submittals defending the use of alternative equal products
- Learned the mechanical industry to be able to convey information concisely and accurately

Audio Engineer, Freelance, Blauvelt NY, Worcester MA, May 2014 – Present

- Developed and installed audio setups for performances of various sizes
- Became confident in my ability to learn and install new equipment and systems quickly

Audio/Lighting and Technology Intern, PRG Secaucus, Secaucus NJ, Summer 2019

- Assisted in building and coordinating RF racks for wireless microphones
- Evaluated functionality of equipment returned from events, to determine issues and confirm nominal performance
- Investigated various networking protocols interaction and made design recommendations for the show's critical networks

Counselor, Blue Rill Day Camp, Airmont NY, June 2015- June 2018

- Collaborated with senior staff to develop activities and ensure the safety of 22 young campers
- Awarded "Shining Star", counselor of the year award for mentoring younger staff members

COMMUNITY INVOLVMENTS

VOX Musical Theatre, September 2018 - Present

President, January 2021 - January 2022

Technical Director, January 2020 - January 2021

COVID-19 Safety Committee Chair, August 2020 - November 2020

Active Member, January 2019 – Present

Lens and Lights, September 2018 - Present

Active Member, January 2019 – Present

MASQUE Drama Theatre, September 2020 - Present

Member, September 2020 - Present

Underwater Hockey, September 2018 - Present

Secretary, January 2019 - January 2020

Member, September 2018 - Present

AYO Theatre Honor Society, November 2020 – Present

Active Member, November 2020 – Present

Skull Senior Honor Society, November 2020 – Present

Inductee, November 2020 – Present

SOCSD Food Pantry, Orangeburg NY, January 2021 - Present

Volunteer, January 2021 - Present

CERTIFICATIONS

- O.S.H.A 10-hour Construction Certificate
- Dante Audio Networking Level 1-3 Certification
- ANSI A92.24 Certification for Group A Types 1 & 3, and Group B Type 3 MEWPs