

## **SOUMIK BHATTACHARYA**

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39 Lisbon Ave 14214, Buffalo, NY

### **OBJECTIVE**

To obtain an internship in the broad area of Electrical Engineering.

### **EDUCATION**

**Master of Science, Electrical Engineering MSEE** Aug 2022-May 2024

- University at Buffalo, The State University of New York (GPA:3.33/4)

**Bachelor of Technology, Electrical Engineering** Aug 2016- July 2020

- Techno India Salt-lake, Kolkata (GPA:7.36/10)

### **INTERSHIP EXPERIENCE**

**Bharat Sanchar Nigam Limited (BSNL)**, August 2019 – September 2019

Areas: Circuit Switching, Fiber Optics, Networking Protocols, Splicing was taught along with practical exposure.

Outcome: Worked with Industry professionals who trained me analyzing components of telecom support infrastructure and their roles, with emphasis on Switched mode power Supply (SMPS) for power plants. Familiarized with some of the faults that may lead to the shutting down of the system and how to troubleshoot.

### **RELEVANT COURSES(EEMS)**

Power Electronics, Industrial Control System, Probability and stochastic processes, Introduction to Medical Resonance Imaging, Principles of Networking, Solid State Sensors, Ren Distributed Generation and Storage, Control and applications of Power Electronics.

### **ENGINEERING PROJECTS**

**Reinforcement Learning for Space Debris Tether Net (Feb 2023 - Current)**

**Advisor:** Prof. Eleonora Botta (MAE)

- Modeling and dynamics of Space Debris collection with Tether net.
- Developing reinforcement learning methods for its control.

**Electric Vehicle Power Electronics Motor Drive Design**

- Calculated the Power Factor and power loss for a three phase IGBT power module (CM600DY-24A).
- Developed Simulink model for the final three phase motor drive design.

**Differential Relay for Transformer Protection**

The goal of this project was to make transmission system fault proof by studying the behavior of entire system during a fault.

- Analyzed relay settings and the stability of the system before and after faults  
Developed Simulink model of the relay- based fault protection for distribution system.

**Freefall detection using Arduino Nano**

- Calculated the orientation of a freefalling object using MPU-6050 gyro sensor.  
Output the real time results using serial communication.

Performed model-based identification to obtain a transfer function of the object using Matlab.

**GPS location tracker for adults with disability using Arduino**

The tracker sent the real time location of the individual to our mobile through wi-fi module.

- The data can then be visualized online using blynk app.
- Built a location tracking device using neo-6m GPS module.
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**Arduino based quadcopter flight controller**

- Used Arduino UNO to build the quadcopter Flight Controller. Fine-tuned the PID gains to optimize performance.
- The circuit was hand soldered on Veroboard.
- The goal of this project was to make a quadcopter using easily available Hardware.

## **SKILLS**

- Programming Languages: MATLAB/Simulink, C, Python.
- Computer Skills: Arduino IDE, Raspberry Pi, Microsoft Excel.
- Communication Protocols: I2C, SPI, USART.
- Other skills: Oscilloscope, Multimeters, Soldering, Circuit design, Hardware debugging, Reading Schematics, PCB design.
- Python Libraries: Numpy, Pandas, Scikitlearn, Socket programming(TCP/IP)

## **INDIVIDUAL COURSES UDEMY (Online)**

- Applied Control Systems for Engineers 2 - UAV drone control
- Applied control systems for Engineers 1-autonomous vehicle
- Mastering Data Structures & Algorithms using C and C++

## **EXTRACURRICULAR ACTIVITIES**

- UB Robotics
- UB Christian Association
- UB AIAA