Naman Gupta

Electrical Engineer - University of Waterloo

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Technical Skills

Hardware: schematic capture and PCB layout, micro-controllers, board bring up & debugging, communication protocols (I2C, UART), SMT & thru-hole soldering, prototyping, AC/DC analysis, digital & analog circuit design
Software Tools: Python, VS Code, MATLAB, Github, C++, C, VHDL
Tools: EagleCAD, Diptrace, LTSpice, ADS, Arduino, Multisim, Altium, AutoCAD, Micro-station, Revit 3D

Projects

Green House Monitoring System | *Diptrace, TI Launchpad, C/C++, UART*

- Designed a PCB communicate with four sensors using micro-controllers to create an Agriculture monitoring system.
- Controlled motor drivers using UART
- Experience with embedded programming on code composer studio and TI Launchpad

Dont Touch | *Diptrace, Arduino, C/C++, I2C*

- Designed Wearable device to notify user avoid touching face using multiple IR sensors and IMU to track hand movement
- Used Arduino Nano to get feedback from the sensors and notifies user based on the hand movement using haptic motor

Analog Circuit for Signal Processing | *EagleCAD, MOSFETs*

- Designed a circuit which performs conditioning and Filtering audio signals
- Circuit included light strip which enables visualization based on the audio frequency

Midnight Sun Solar Race Car | *Altium Designer, Soldering, Python*

- Used Altium to design a PCB that controls the exterior lights of the car. Successfully travelled across America during the 2018 American Solar Challenge
- Worked with a team to design battery Management system

Pitching Rover | *Arduino, UART*

- Designed an automated cannon that provided a certain distance input, the pitcher auto-adjusts its angle and velocity to hit the desired target
- Achieved required speed using gears and the pitcher trajectory was controlled using Arduino Bluetooth module

Experience

Railway Engineering Assistance **September 2020 – December 2020**
WSP Group *Markham, ON*

- Reduced work overhead by automating routes using Python to aggregate XML test results into an organized format and to further use it to analyze the results of the daily simulations
- Explored ways to visualize and arrange simulation results to team members using Python Scripts increasing efficiency by 90%
- Developed Rail Corridor CAD model depicting the current Rail connection system on AutoCAD.
- Designed Railway electrical bungalow schematic for the VIA rail and GO trains stations and updated previous versions based on the requirements

Electrical Engineer & Transportation Planner **January 2020 – April 2020**
IBI Group *Mississauga, ON*

- Designed LRT station electrical system on model including communication and security system on AutoCAD & Micro-station
- Managed various Site Drawings as well as worked with department P. Eng for detail drawings and corrected various technical errors
- Analyzed transportation system using Synchro models and made future 20-year highway and transportation analysis report for the MetroLinx

Electrical Engineer Intern **May 2019 – August 2019**
L&T Construction Power Transmission & Distribution *Doha, Qatar*

- Initiated a wireless communication and configuration design for the protection relay allowing the user to monitor the system remotely
- Designed electrical and mechanical Design of Power Distribution Substations and Panels, Lightning & Earthing protection system for Qatar FIFA 2022 Stadium