Hritheekka Chinnakonda

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Education

Sept 2020 – Apr 2024: McMaster University • Hamilton, Ontario

Bachelor of Electrical Engineering

Internship Experience

May 2022 – Aug 2022: Co-op • Web Programmer • Handi-Care International

Co-op at a leading registered Canadian charitable organization empowering children with disabilities and rehabilitation for spinal cord injury.

- Involved in an international exchange (**Amar Seva Sangam**, India), visited the prosthetic engineering division, interviewed and interacted with spinal cord injury patient and physiotherapists
- Website hosting and redesign using WordPress content management system for static page creation, dynamic page creation using **PHP** and **SQL** from database
- Overall redesign increased website traffic by 140%

May 2021 – Aug 2021: Co-op • PT Analyst • Hoffmann-La Roche

Co-op at a Swiss multinational healthcare company that operates worldwide under two divisions: Pharmaceuticals and Diagnostics.

- At Roche Diagnostics division, under the management of a Senior Technical Manager Global Annual Product Quality Review, I learned about the digital solutions developed for laboratories, physicians and patients
- Designed division/project websites using **Google Sites, HTML, CSS**, using **Tableau** for data analysis
- Worked under **Scrum** team, learned **Agile** delivery and management, and organized/led bi-weekly team meetings

Technical Skills

Languages / Technologies:

- Web development, WordPress, HTML5, CSS3, PHP, SQL
- Python, Java, C/C++, Git/GitHub, Assembler MATLAB, Linux OS, ROS, WaveForms, Keil uVision, Quartus II, Autodesk Inventor, LTSpice, Verilog

Software Engineering Projects

Jan 2023 – Present: Autonomous Electrified Vehicle (AEV) System Integration Project

- Developing and integrating software and hardware modules for collision control and autonomous operation of a small-scale ($1/10^{th}$) RC vehicle platform
- Localization and mapping (SLAM) in autonomous systems, using **Linux OS**, **C/C++**, **Python**, **Matlab/Simulink** and embedded systems
- Using **Robot Operating Software (ROS)** to develop a real-time control system on Nvidia Jetson Nano AI embedded computer

Jan 2022 – May 2022: Spatial Mapping Using Time-Of-Flight Sensor

- Designed an embedded spatial measurement system using VL53L1X Time of Flight sensor, a stepper motor and a TI MSP432E401Y microprocessor board
- Graphically displayed measurement data as a 3D model using **C/Assembler**

Jan 2022 – May 2022: Infrastructure for Self-Driving Vehicles

- Redesigned existing 4-way traffic intersections to accommodate self-driving vehicles with insightful analysis regarding design efficiency, safety and adaptability with strong consideration of **PERSEID** layers
- Traffic simulations created using **Python** along with terminal visuals of the intersection models

Jan 2021 – May 2021: Sorting and Recycling System for Containers

- Designed a system consisting of simulated parts (**Autodesk Inventor**) and software components (**Python**) to identify, sort and recycle containers
- Data collected from a virtual environment **QLabs (Qlabs Virtual QArm)**, identified contains allowing for seamless disposal
- Led and organized team meetings in order to meet progress report and milestone deadlines using **Gantt charts**

Oct 2020 – Mar 2021: Competitor • Business + Higher Education Roundtable Canada Comeback Challenge

- Created an application (My CAD – "My Canadian Doctor") to solve the absence of direct healthcare access due to COVID-19
- The app design, and prototype programming (**Python**) were presented as a video submission
- Top 10 finalist out of 150 team's total