

VARUN JAIN

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Varun901

EDUCATION

BHSc - Health, Engineering Science, and Entrepreneurship

McMaster University - Year 3 of 5

September 2018 - April 2023 Hamilton, Ontario

- 3.9 CGPA on 4-Point Scale
- Relevant Coursework: Biomedical Instrumentation and Measurement, Biomedical Control Systems, Biomedical Signals and Systems, Biomechanics, Medical Imaging, Human Anatomy and Physiology

EXPERIENCE

Undergraduate Teaching Assistant

McMaster University

September 2019 - Ongoing Hamilton, Ontario

- Facilitate **Laboratories** and **Tutorials** for 30+ first-year students involving fundamental concepts in dynamics, electricity, and magnetism
- Grade** and **Invigilate** Midterms, Labs and Bi-Weekly Quizzes

Computer Science Research Assistant

McMaster University - Dr. Rong Zheng's Lab

September 2019 - April 2020 Hamilton, Ontario

- Developed the back-end for a Indoor Positional and Localization Software using **Django REST Framework**
- Obtained WiFi data within buildings using an **Android Application** built from scratch and a **Raspberry Pi** connected via Bluetooth

Back-End Developer

Trainer+

May 2019 - September 2019 Toronto, Ontario

- Modified the back-end for Web and Mobile Applications using the **Django REST Framework** through models and API endpoints
- Queried, Parsed and Organized data from files and user input

EXTRA-CURRICULAR ACTIVITIES

Technical Team Member

McMaster Medical Engineering Design Team

September 2020 - Ongoing Hamilton, Ontario

- Designing a low-cost **EMG** controlled transradial forearm-to-hand prosthetic actuated by an **Arduino**, and other electronics
- Designing a **Cardiac Function Simulator** that realistically models the local and global hemodynamics in all four cardiac chambers, major output sources, and the remaining vasculature

SKILLS

Python JavaScript Swift Git

MATLAB HTML / CSS Django

Node.js Open-CV

Autodesk Inventor SolidWorks

KiCAD

Raspberry Pi Arduino

PROJECTS

GitFit

Hack the North 2019

September 2019

- Created a React Native application that informs users when they have improper form during fitness compound lifts
- Created a **ML model** that sends skeletal videos via a **Node.js REST API**
- Winner of Deloitte's Perfect Pitch Award
- <http://bit.ly/GitFitApp>

Cardio-Safe

McMaster University

March 2019

- Created an **Android application** that detects whether a user is prone to Coronary Artery Disease symptoms
- Displays sensor data from a **Raspberry Pi** through an MQTT server
- Used **Twilio API** to notify user for warnings
- <http://bit.ly/Cardio-Safe>

FuelPlan

HackWestern V

Nov 2018

- Created a google chrome extension that calculates fuel cost for trips on Google Maps dependent on the user's car
- Used data from US Government to calculate fuel economy for all vehicles
- <http://bit.ly/FuelPlan-V>