Rutvik Sheth

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EDUCATION

Bachelors of Computer Engineering
McMaster University

09/2017 – 04/2021

- Data Structures, Algorithm and Discrete Math in Java
- Microprocessor, and Electromagnetism
- Logic Design: Combinational and Sequential circuits, Quartus II.
- Electrical Circuits: Designing circuits using OrCAD and PSpice software

EXPERIENCE

Co-Founder & Integration Lead
McMaster Hyperloop Team

01/2019 – Present

- Successfully contacted 2 professors to become a part of our team
- Selected 30+ undergraduate/graduate students via interviews
- Researching linear Induction Motors, CAN and Kalman Filters

Rocket Structure Designer
McMaster University Rocketry Team

06/2018 – Present

- Documented design-analysis of launch-rails for Sounding Rocket
- Led selection of rocket's nosecone via hand-computation/simulation
- Modeled rocket air-frame & nosecone on AutoDesk Inventor

Cooling System Designer
McMaster University Formula Electric

11/2017 – 04/2018

- Modelled case for electromechanical sensor with SolidWorks
- Installed Formula Car parts (e.g. brakes) using Workshop Machinery
- Designed sensitive components (e.g. radiator, pump brackets)

Engineering Lead
FIRST Robotics - J. Clarke Richardson Collegiate

09/2015 – 06/2017

- Led school robotics team (#5076) to become a finalist in district level competition at Victoria Park event.
- Developed excellent communication skills by independently securing Lear Corporation sponsorship of $3000 and mentorship
- Improved leadership and problem-solving skills by leading the Mechanical team of 3
- Refined my attention to detail by controlling the robot and delivered game-winning performance in the arena

SKILLS

C/C++ | Java | Python | OpenCV | Linux | Git | Excel/Word/PPT | Raspberry Pi | Arduino | Assembly | HTML | CSS | Esduino uC | Bootstrap | Soldering | Autodesk Inventor | Solidworks | MATLAB

PROJECTS (FOUND ON GITHUB)

Accelerometer Data Acquisition (March to April 2019)

- Successful conversion of Analog to Digital signals from Accelerometer to Esduino Xtream Microprocessor
- Established serial communication between the microprocessor and Matlab
- Languages the system was built in: Assembly, C and Matlab

Delta Draw for DeltaHacks V (Jan 2019)

- A mechanized artist robot that draws any image you import (JPG) with a marker on a white board in under 40 minutes
- Used FLASK for testing and developing a local server
- Designed a local tunneling system through NGROK for file transfer
- Tested the viability of a piece of code used to extract etch-a-sketch coordinates through IMAGE PROCESSING

Web Scraper for StarterHacks (Jan 2019)

- Automated data-extraction (Python Script) of a Student University Account
- Display marks, potential learning curve, current course average, and more

Enhancing Face Identification using DLSR Camera (Dec 2018)

- Establish a connection between Unix system to access DSLR features
- Currently exploring ways to display live feed from DSLR to Unix

Tweet Sentiment (Dec 2018)

- Created a small program that asks the users to enter a word, which then return most return tweets off of Twitter
- Analyzes the sentiment and factual value

Face Identification (Dec 2018)

- Used OpenCV, Numpy & PIL to write a facial identification program
- Detects face, eyes, and smile
- Trains faces, saves them and later uses them to identify and output the name of the person

ACHIEVEMENTS

3rd Place : DeltaHacks V (Jan 2019)
Awarded at McMaster University's annual hackathon with 160 teams

Honors with Distinction (09/2013 – 06/2017)
Graduated grade 12 with 90+ average