Harshil Modi

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- Software & Biomedical Engineering student experienced in many languages using **Unix, Linux** & **Windows** Platforms
- Strong foundation with **Scripting, Workflow Automation**, **Testing, Designing** & **Back-End** Development
- Working knowledge of **Machine Vision, Machine Learning**, **Neural Networks**, & **Deep Reinforcement Learning**

Education

2017-09 - 2021-04

McMaster University

- Bachelor of Software and Biomedical Engineering Co-op; **GPA: 3.98/4.0**
- Courses: Intro to Software Development, Data Structures & Algorithms, principles of programming Java, Discrete Math, and Engineering Math
- McMaster University President's Award, Pollock Family Grant Award, McMaster Dean's List

Experience

2018-05 - 2018-08

Software Engineering Intern/Summer Student

Sunnybrook Health Sciences Centre; Toronto, Canada

- Individually developed software for **automatic cell counting and identification** using QuPath and Groovy and was awarded a **publication in Biology Open Journal**
- Improved analysis accuracy and efficiency by **~30%** and **2 weeks to 3 hours** respectively, by developing a cell identification classifier using **OpenCV** and **NLP**
- developed a **Graphic User interface** for non-technical team members

2017-11 - Present

Software Developer

Chat Automate (startup); Toronto, Canada

- Developed a **voice recognition AI chatbot** using TensorFlow, NLTK, and TextBlob on python
- Designed databases, stored procedure, reports, and data input interface Using SQL servers
- Worked on creating the company website using HTML which increased client base by **60%**

Personal Projects

2018 – 12

Image Recreation with Genetic Algorithm

Data and Image Processing Analyst

- Effectively developed an algorithm which can generate identical images from random set of pixels in **C**
- Implemented an **exponentially Decaying Adaptive Learning Rate** to increase efficiency by 12%
- Enforced real-time image stitching using FFMPEG to increase resolution and video quality by **220%**

2017- 12

Bionic Prosthetic Hand

Machine Learning Developer & CAD Designer

- Collaborated with a group of 5 to create a 3D printed prosthetic hand on Autodesk inventor and SolidWorks
- Developed applications using Rashberry Pi and NLP to successfully achieve **+85% performance** accuracy
- Project selected for Department of **Engineering showcase** & ranked top **3 against 30 teams**

Skills

Languages: Python; C++; C; java; Bash; R; MATLAB; Assembly; Groovy

Web Development: Django; NodeJs; ReactJs; .Net; HTML; CSS; C9; AWS;

Databases and Version Control: MySQL; SQL; MS SQL; MongoDB; SVN; Git;

Machine Learning Frameworks: Tensorflow; Keras; OpenCV; Numpy; SciKit Learn; CNTK;

Computer Aided Design Software's : AutoCAD, Inventor, SolidWorks, Pro/DESKTOP