Mukund Mauji

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Education

B.A.Sc. Mathematics and Engineering <div align="right">Queen's University | **2020**</div>

- Specialization in Systems and Robotics
- Awards: 125th Anniversary Engineering Excellence Award, Excellence Scholarship, Science '68 Scholarship

Experience

Software Engineer | Mosaic Manufacturing <div align="right">Toronto, Canada | **Sept 2020 - Present**</div>

- Maintain 3D slicer (C++ 11) that powers CANVAS (canvas3d.io)
- Fix printing issue that caused models to be printed as disjoint pieces
- Currently working on improving seam hiding to increase print quality

Hardware Engineer | Cisco Meraki <div align="right">San Francisco, USA | **May 2019 - Sept 2019**</div>

- Led the research and validation stages of a new product for the MV smart camera line
- Completed hardware debugging to solve motor issues in exisiting products
- Performed field testing and wrote a report to illustrate competitive advantages of product in various situations
- Compiled all necessary information to write a Parts Requirement Document (PRD) to kick off the project

Business Technology Analyst | Deloitte <div align="right">Toronto, Canada | **May 2018 - Sept 2019**</div>

- Implemented facial recognition technology on a Raspberry Pi to recognize and save faces to a database
- Developed modular application (Python, OpenCV) for real-time classification and model retraining
- Established databases using AWS DynamoDB to upload model data for higher-characteristic trait analysis
- Designed application development under ongoing client needs and collected user requirements

Projects

Undergraduate Thesis Project <div align="right">**Sept 2019 - Apr 2020**</div>

- Topic: Prosthesis Design Using Stochastic Control Theory
- Explored different methods to quantify optimal paths for a prosthetic limb
- Researched algorithms to quantize brain signals into force inputs to arm
- Implemented a Linear Quadratic Gaussian controller to track random and zero-reference trajectories

Pneumonia Detection in Chest X-rays <div align="right">**Oct 2019 - Apr 2020**</div>

- Built a CNN (TensorFlow) to detect pneumonia in chest x-rays
- Created a data input pipeline with built-in preprocessing using the TFRecord module
- Implemented a custom Spatial Pyramid Pooling layer to allow for images varying sizes

Leadership Experience

Co-Chair | QHacks <div align="right">Kingston, Canada | **Apr 2019 - Feb 2020**</div>

- Spearheaded the planning and execution of Queen's fifth annual hackathon (qhacks.io)
- Fostered relationships with strategic and community partners, raising a budget of over $80,000
- Hired and managed 25-person executive and 40 volunteers to ensure the event ran smoothly for 250+ delegates
- Introduced agile methodology and organizational behaviour principles to maintain efficiency and team morale

Skills

Languages: Hindi, French, Spanish
Programming: Python, C++, MATLAB, Git, PostgreSQL