

Abhishank Gaba

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🌐 Drugless Driving

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EDUCATION

BASc., Mechatronics Engineering (Management Science Option) with Distinction,
GPA: 4.0 (3rd & 4th Year)

University of Waterloo, May 2019

Relevant Courses:

SYDE522 (Machine Intelligence) – 94%

SYDE 372 (Pattern Recognition) – 87%

MSCI 331 (Introduction to Optimization) – 92%

ECE 493 (IOT Cloud Computing) – 87%

BET 300 (Foundations of Venture Creation) – 90%

MSCI 432 (Operations Management - 6 Sigma, Kaizen) – 94%

MSCI 311 (Organizational Behaviour) – 91%

PROJECTS

Research Paper: Automated Sewer Inspection (Google Collaboratory, Python) – April 2019

Detected critical points (Joints, connections, manholes) in 7 pipe videos by building a **deep multi-class convolutional neural network** using **Machine Learning**. Achieved an overall accuracy of **91.7%**.

Indoor Route Guidance (Matlab) – April 2019.

Calculated current location by building an **Extended Kalman Filter**. Calculated shortest path to final location by implementing an **Dijkstra's algorithm**.

Kaggle Challenge: Primary Site Classification (Google Collaboratory, Python) – April 2019.

Identified different tissue patterns from various primary sites (lung, kidney, ovary) by designing a **convolutional neural network** using a **Keras Sequential Model (Machine Learning)**. Achieved an accuracy of **80.20%** on unseen test data.

Activity Classifier (Python) – August 2018

Extracted features by **filtering, signal processing & spectrally analyzing** IMU data from 6 subjects. Built **MICD classifier** to identify walking, running & sitting.

TECHNICAL SKILLS

🔧 3+ years of object-oriented experience using Java, C++, & C. 2+ years of scripting experience using Python, Matlab, Perl & Google Collab.

🔧 1+ years of data warehousing experience using Databases: MySQL, SQL Server & JasperReports Server.

🔧 5+ years of experience with version control: Git & SVN.

RELEVANT WORK EXPERIENCE

Drugless Driving (Startup), Product Manager, Software Lead

May 2018 - May 2019 | Waterloo, ON

- Piloted product lifecycle of ignition interlock device; released 3 prototypes: analyzed industry trends & performed **competitive assessment**; developed **product plan** by researching **pain points**: outlined **features, acceptance criteria & product metrics** & tracked **workflow**.
- Reduced prototype down to core features by observing **consumer behavior** & implementing **lean six sigma**.
- Developed **Business Model Canvas** & Pitched to stakeholders: incubators, customers & partners to acquire funding. Received **\$10,000 MBET scholarship**. Finalists for **\$65,000 funding** (from various Pitch competitions).
- Designed and prototyped **Raspberry-Pi Testbed** with **CAN protocol** to interface with embedded detectors. Managed relations with these 3rd party vendors (GuardEx, BACtrack)
- Implemented **Machine Learning** algorithms in **Python** with facial-recognition as anti-cheat mechanism. Achieved a **99.38%** accuracy on the **Labeled Faces – Wild** benchmark.

Myant (Smart Underwear), Hardware & Data Science Intern

Aug 2017 - Dec 2017 | Etobicoke, ON

- Led a team of 10 test subjects to find cancer markers. Found **86%** correlation by building a **Linear Regression Machine Learning** model in **Python**. Leading to feature being added to release (**product expansion**).
- Headed a **cross functional** team through 3 **product releases**: integrating biosensing technology into textiles. leading to partnership with **Fortune 500 Company**.

CBC Canada, QA Analyst (Desktop & Mobile Site)

Jan 2015 - April 2015 | Toronto, ON

- Held weekly meetings with development team & Journalists to define new/improve existing **features** & address **pain points**. **Continually improved** CBC's Content Management System (CMS) by implementing **kaizen + 6 Sigma**.
- Standardized testing protocol & held CMS product training sessions, introducing a matrix structure into functional QA team & increasing efficiency by 25%.

Advantex marketing (CIBC Rewards), Software Developer

Jan 2013 – Sept 2014 | Markham, ON

- Developed a **diagnostic tool** for server crashes by logging report data on **Jasper Cloud Server**. Saved developer's **8 hours** of weekly troubleshooting in **agile environment**.
- Automated company's financial statement by implementing **HashMap ADT** in **Eclipse** to replace **Excel's Vlookup**. Reduced execution time by **33%**.
- Wrote & unit tested **Java Data Services (ETL)**: integrated **SQL** for data extraction from **MySQL relational databases**. Improved finance team's efficiency by **20%**.