# Abilarsh **Vijiananthan**

✉ contact@abilarsh.com    AbilarshViji    AbilarshViji

## Skills

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| **Languages** | Python, Java, C/C++, HTML, CSS, JavaScript |
| **Tools and Programs** | Git, Arduino, Linux, Android Studios, Docker, Kafka, OpenCV |

## Experience

**McMaster University**  *Hamilton, Ontario*
TECHNOLOGY INTERN  *May 2019 - Aug 2019*

- Developed in house, end-to-end LoRa network and infrastructure
- Created Android app comparing access times between MQTT, RabbitMQ (AMQP), Kafka, and DDS
- Set up Kafka pipeline from OPC UA Server to retrieve server cooling data
- Built IoT demo station showcasing various microcontrollers and communication protocols to guests

**Xerox Research Centre of Canada**  *Mississauga, Ontario*
ELECTRONICS PRINT LAB TECHNICIAN  *Jul 2016 - Aug 2016*

- Prepared and tested substrates in the electronics print lab
- Replicated NFC Module in Solidworks for printing
- Optimized toolpaths to reduce print times by 20%
- Developed UI for capacitive touch interface using Arduino and C#

## Projects

**Smart Unlock (UoftHacksVI)**  *Toronto, Ontario*
HTTPS://GITHUB.COM/ABILARSHVIJI/UOFTHACKSVI  *Jan 2019*

- Developed Android App that allows the user to authenticate face and allow user to unlock the vehicle
- Set up SmartCar API backend using Python and Flask to handle unlocking the vehicle
- Utilized Microsoft Azure's Face API (Face Verification) to verify facial features

**Boston Sidewalk Ratings (BostonHacks)**  *Boston, Massachusetts*
HTTPS://GITHUB.COM/ABILARSHVIJI/BOSTONHACKS2018  *Nov 2018*

- Developed image classifier that determines the quality of sidewalks for the City of Boston
- Gathered 400 images for training data by scraping Google Images using Python library
- Trained image recognition model using CustomVision.ai
- Tested model with images gathered from the Google StreetView API, running them through a model, and outputting the results to a webpage

**GIGO Robotic Arm**  *Hamilton, Ontario*
ENGINEER 1P03 - FINAL PROJECT *(Video Linked)*  *Sept 2017 - Dec 2017*

- Created 4 bar linkage arm to lift garbage cans for client who has cerebral palsy
- Utilized linear actuator, Arduino, joystick, and 3D printed components to develop arm

**Employee Management System**  *Mississauga, Ontario*
HTTPS://GITHUB.COM/ABILARSHVIJI/EMPLOYEEDATABASE  *Feb 2017 - May 2017*

- Developed database based upon hashtable to store various employee entries
- Created intuitive UI with NetBeans using the Swing API in Java
- Utilized efficient data structures such as hashing functions to reduce data access times

## Education

**McMaster University**  *Hamilton, Ontario*
B.ENG IN ELECTRICAL ENGINEERING, 3RD YEAR  *Sept 2017 - Present*

- Expected Graduation: Spring 2021

**Online Courses**
LYNDA.COM

- Audited courses on OpenCV, JavaScript, HTML, and CSS