

# Arham Ahmed

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## Education

### University of Waterloo

Sep. 2014 - Apr. 2019

CANDIDATE FOR BACHELORS OF APPLIED SCIENCE IN HONOURS COMPUTER ENGINEERING, CO-OP

GPA: 3.5

- Waterloo Merit Scholarship Recipient (2014)
- Engineering Society, Computer Science Club, Engineers Without Borders

## Skills

- Experience in Ruby, Java, and JavaScript; familiar with C, C++, Python, BASH
- Git, React.js, Ruby on Rails, Android, Flask, UNIX, Vim

## Experience

### Shopify

Sep. 2016 - Dec. 2016

PRODUCTION ENGINEERING INTERN

Ottawa, Ontario

- Built a scalable, dynamic, and robust mobile CI system leveraging shared storage for optimal build speed
- Automated and optimized virtual machine provisioning speed by 120% and made their deployment 7.6x faster
- Improved build times by 350% by building caching infrastructure leveraging a Shared Area Network and Redis
- Prevented concurrency problems leading to data corruption by designing efficient non-blocking algorithms
- Updated logging services in internal infrastructure to easily identify bottlenecks that needed addressing

### Innovasium Digital

Jan. 2016 - Apr. 2016

SOFTWARE ENGINEERING INTERN

Markham, Ontario

- Developed multi-purpose management platforms using React, adhering to Facebook's Flux application architecture
- Configured development pipelines using Heroku and staging environments on AWS EC2 instances
- Rewrote legacy database logic using Ruby's ActiveRecord ORM for better project maintainability
- Built RESTful APIs using Ruby on Rails with JSON Web Token based authentication and Amazon S3 support

### Symcor Inc.

May 2015 - Aug. 2015

SOFTWARE ENGINEERING INTERN

Mississauga, Ontario

- Created interactive data visualizations using D3.js for an analytics platform that processed 100,000+ transactions daily
- Led development with ETL tools (Informatica) in creating file transformation workflows and pipelines
- Wrote shell scripts in a BASIC-like language to automate the creation and saving of file conversions of cheque documents

## Projects

### Cerebrum

[git.io/vwRxF](https://git.io/vwRxF)

- Implemented a simple, lightweight, and easy-to-read artificial neural network library with over 2,000 downloads
- Used supervised learning with a backpropagation algorithm to form a predictive model for arbitrary input sets
- Benchmarked at 93% correctness with a 0.052% training error for numerical data sets

### Wrist Doctor

[git.io/vn2Rw](https://git.io/vn2Rw)

- Developed a real-time web app that detected Carpal Tunnel Syndrome inducing hand movements based on heuristics
- Added mitigation functionality to show prevention techniques for the syndrome and push notifications upon detection
- Created a wrist activity dashboard using D3.js that displayed visualizations of types of hand movements over time

### Sign-Me-Japanese

[git.io/vn2Rs](https://git.io/vn2Rs)

- Built a sign language detector that detected up to 15 Japanese hand motions by comparing the motion vectors
- Implemented a least squares algorithm for gesture detection of the hand motions for accurate translation

### Texessible

[git.io/vn2B9](https://git.io/vn2B9)

- Created an app that can send emails, fetch news or weather updates, and provide directions via SMS and the Twilio API
- Developed the backend using Flask which fetched data from various endpoints and communicated with multiple APIs