

# Russell Islam

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## SKILLS

- **Languages:** Python, C, C++, JavaScript, Java, Bash, SQL
- **Web Development Tools:** Node.js, Express, React, Flask, Django, NGINX
- **Infrastructure Tools:** AWS (EC2, Lambda, Kinesis, S3, RDS), Jenkins, Docker, Ansible, Terraform, Kafka

## EXPERIENCE

CAPITAL ONE | Software Engineering (SRE) Intern Jan 2020 – Apr 2020

- Independently created patent-pending enterprise wide Python package to verify AWS infrastructure
- Integrated package into all AWS pipeline deployments via Jenkins which eliminated up to 5 days (100%) of time from the production infrastructure change process
- Designed and deployed server-less infrastructure for AWS Lambda, Kinesis and Kafka pipelines responsible for detecting double charges in customer transactions and notifying users in real time
- Created infrastructure for AWS pipeline which sends welcome emails to newly registered customers
- Removed superfluous Lambda functions from AWS pipelines, reducing resource usage by 20%

CLEARPATH INC. | Back End Software Developer Intern May 2019 – Aug 2019

- Redesigned Virtual Robots infrastructure by using ROS2, yielding in 28% less memory used per robot
- Upgraded Virtual Robots to Python3 due to deprecation, adding support for modern libraries
- Implemented pipeline testing capabilities using GitLab CI which attained 80% code coverage
- Developed Ansible roles to automate retrieval of robot simulation data and upload to Elasticsearch

ESENTIRE INC. | Back End Software Developer Intern Sept 2018 – Dec 2018

- Created a Flask API to communicate with a Postgres database to optimize network packet inspection
- Developed a REST API using Flask for parsing NetFlow data and collecting metrics related to traffic
- Constructed robust unit tests using Python libraries such as Mock, covering 70% of the codebase

## PROJECTS

REDDITMAKESART | Python, JavaScript, AWS (EC2, Lambda, RDS), React, Flask, NGINX

- Web application which acts as a showcase for latest top original art content created by Reddit users
- Developed a React front-end with asynchronous loading alongside a Flask micro-service back-end
- Hosted on an AWS EC2 instance using NGINX as a lightweight webserver to proxy all HTTP requests
- Utilizing AWS Lambda to periodically run a custom Python scraper on the r/art subreddit and using an AWS RDS MySQL database for securely storing all retrieved images and metadata

VIM SPOTIFY | JavaScript, React, Express, Node.js, Spotify API

- Custom Spotify web client which provides user interaction with any active device using Vim hotkeys
- Provides functionality such as play/pause, seek forward/backward and toggle shuffle/repeat
- Uses the Spotify Web API with OAuth for continuous user authorization and playback control

## EDUCATION

UNIVERSITY OF WATERLOO | BAsC Computer Engineering Sept 2017 - Apr 2022

- **Extracurriculars:** Watonomous (Self - Driving Car Team), UW Data Science Club
- **Courses:** Data Structures and Algorithms, Systems Programming and Concurrency, Compilers