

# Emmanuel Sales

<https://emsal.me> | [emsal1863@gmail.com](mailto:emsal1863@gmail.com)

## EDUCATION

### University of British Columbia

M.Sc., COMPUTER SCIENCE  
Vancouver, BC | 2020-2022  
(projected)

Advisor: Dr. Nicholas Harvey

### B.Sc., DOUBLE MAJOR: HONOURS COMPUTER SCIENCE MAJOR STATISTICS

Vancouver, BC | 2015-2020  
4.33/4.33 GPA

- Undergraduate Hons. Thesis: "Restricted-dimension subgradient descent: asymptotic bounds on error", supervised by Dr. Nicholas Harvey

## TECHNICAL SKILLS

- Algorithms
- Machine Learning
- Statistics
- Backend development
- Web development
- Programming languages: Python, C++, Go, Java, Scala, JavaScript, Julia

## EXPERIENCE

### Google Inc.

Software Developer Intern

Summer 2020  
Vancouver, BC (Remote)

- Working on the BigQuery GIS team, implementing clustering algorithms for geospatial data in the BigQuery database.

**Worked with: Python, Flask, Google App Engine, Java**

### Google Inc.

Software Engineering Intern

Summer 2019  
Mountain View, CA

- Worked on Google Earth Engine.
- Designed and developed a proxy web application that allows users to query Earth Engine assets using the open Web Map Tile Standard (WMTS); project was open-sourced as a demo of the Earth Engine API.

**Worked with: Python, Flask, Google App Engine, Java**

### Cockroach Labs

Backend Engineering Intern

Summer 2018  
New York, NY

- Part of the SQL Front-end, Language, and Semantics team.
- Made a performance optimization to CockroachDB that sped up interleaved table delete operations by a factor of 1 billion.
- Developed a workload simulator for testing the performance of a geo-distributed CockroachDB cluster.
- Developed programming language features in CockroachDB for compatibility with PostgreSQL semantics.

**Worked with: Go, Git**

### Splunk

Software Developer Intern

Summer 2017  
Vancouver, BC

**Worked with: Scala, Python, React.js, PostgreSQL, Docker, Git**

### Hootsuite Media Inc.

Software Developer Intern, Platform Team

Summer 2015, Summer 2016  
Vancouver, BC

**Worked with: Scala, React.js, Python, Ruby, Mesos, Docker, Git**

## SELECTED PROJECTS

### This Pokémon Does Not Exist

[https://github.com/emsal1863/pkmn\\_doesnotexist](https://github.com/emsal1863/pkmn_doesnotexist)

A machine learning project that generates Pokémon sprites using a variational autoencoder neural network. Entered into the hackathon nwHacks 2020.

### Twitter Clustering Project

<https://emsal.me/blog/4>

A machine learning analysis in Python and Julia using the ISOMAP algorithm on the social network graph of all of the Twitter accounts I follow to cluster them into distinct groups.

### Resolvplex

[https://github.com/emsal1863/resolvplex\\_alt](https://github.com/emsal1863/resolvplex_alt)

DNS proxy written in Go that allows users to configure their DNS resolution paths on a domain-by-domain basis.

### Socksify

<https://github.com/emsal1863/Socksify>

Software written in C that allows users to run processes with all outgoing TCP traffic going through a SOCKS5 proxy.