

# Emmanuel Sales

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## Education and Honours

### University of British Columbia

2015 - 2020 (Projected)

BSc Candidate

Double Major: Honours Computer Science, Statistics

- 4.33/4.33 GPA | TREK Excellence Scholarship for Continuing Students
- President, Computer Science Student Society
- 2nd place, 2016 ACM-ICPC Pacific Northwest Regionals (Div. 2)

### Stanford University on Coursera

Summer 2014

- Machine Learning - 96%

## Experience

### Cockroach Labs

May 2018 - August 2018

Backend Engineering Intern - SQL Front-end, Language, and Semantics

**Worked with: Go, Git**

- Made a performance optimization to CockroachDB that sped up interleaved table delete operations by a factor of a billion.
- Wrote a workload simulator for testing the performance of a massively geo-distributed CockroachDB cluster.
- Solved SQL semantics issues in CockroachDB for compatibility with PostgreSQL semantics.

### Splunk

May 2017 - August 2017

Software Developer Intern - Metrics (May - Jul), Machine Learning (Aug)

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

- Developed components of the Scala backend for an analysis service for the Machine Learning R&D Incubation team.
- Tested the performance and functionality of the upcoming Splunk metrics service and contributed ReactJS performance optimizations for data analysis UI.

### Hootsuite Media Inc.

July 2015 - August 2015, May 2016 - August 2016

Software Developer Intern - Platform Team

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

- Designed, implemented, and tested backend and frontend features for a core microservice for automatically matching, tagging, and assigning messages as they are processed in streams.
- Wrote internal applications that control the process of deploying code to production.

## Technical Expertise

### Programming Languages

- *Main:* Python, Go, C, C++, JS (Node, React), Java, Scala, Julia
- *Supplementary:* Ruby, Lua, Octave, Arduino, Racket

**Machine Learning:** Keras, TensorFlow | **Web Frameworks:** Flask, Ruby on Rails | **Databases:** PostgreSQL, Redis

## Selected Projects

- **[DESTROY ALL COCKROACHES \(nwHacks 2017\)](#)** - Web game written in Node.js where players stress test a CockroachDB cluster by killing cockroaches on screen
- **[Resolvplex](#)** - DNS proxy written in Go that allows users to configure their DNS resolution paths on a domain-by-domain basis.
- **[Socksify](#)** - Software written in C that allows users to run processes with all outgoing TCP traffic going through a SOCKS5 proxy.
- **[Twitter Clustering](#)** - A machine learning exploration in Python and Julia where I attempt to cluster the twitter accounts in my timeline into distinct groups.
- **[ImageML POC](#)** - C++ and OpenCV neural network implementation. Does basic image processing and OCR. Did not use any OpenCV ML libraries.
- **[Markov Chain Project](#)** - Python library for generating sequences from Markov processes, used to analyze text.