Emmanuel Sales

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Education and Honours

University of British Columbia **September 2015 - May 2020 (Projected)**

BSc Candidate

Double Major: Honours Computer Science, Major Statistics

- 4.33/4.33 GPA | TREK Excellence Scholarship for Continuing Students
- President, Computer Science Student Society, 2018-19
- 2nd place, 2016 ACM-ICPC Pacific Northwest Regionals (Div. 2)

Experience

Google Inc. **May 2019 - August 2019**

Software Engineering Intern, Google Earth Engine

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

- Worked on Google Earth Engine, "A planetary-scale platform for Earth science data & analysis".
- 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.

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.
- Developed a workload simulator for testing the performance of a geo-distributed CockroachDB cluster.
- Solved SQL semantics issues in CockroachDB for compatibility with PostgreSQL semantics.

Splunk **May 2017 - August 2017**

Software Developer Intern - Machine Learning (August 2017), Metrics (May 2017 - July 2017)

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

- Worked on backend components for Machine Learning Incubation; performance and functionality testing and front-end components for the metrics service.

Hootsuite Media Inc. **July 2015 - August 2015; May 2016 - August 2016**

Software Developer Intern - Platform Team (2016); High School Software Developer Intern (2015)

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

- Performed full-stack development on a service for automatically matching, tagging, and assigning messages as they are processed in streams.
- Developed internal applications that control the process of building and 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, Matlab

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

Selected Projects

- **Resolvplox** - 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.