GERALD LOW

Aspiring software developer with demonstrated technical and entrepreneurial experience

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EDUCATION

Imperial College London — London, United Kingdom
MEng Aeronautical Engineering — Oct 2016 – Expected Jun 2020

- 1st Class Honors in 1st, 2nd and 3rd Year, Imperial College Aeronautical Engineering Scholar
- Relevant modules: High Performance Computing (97%) **(C++, Python)**, Optimization (78%), Mathematics (80%)
- Self-study: Algorithms I & II (Princeton, Coursera), Clean Code (Robert Martin, 2009), Machine learning and AI (deeplearning.ai)

Raffles Institution (Junior College) — Singapore
A' Levels — Jan 2012 – Dec 2013

- Achieved highest possible grade (A) for all H2 subjects taken (Physics, Mathematics, Chemistry, Economics)
- Completed an advanced module on Semiconductors and Devices (Nanyang Technological University EEE Module)

COMPUTER SKILLS

- **Languages**: Java, C++, JavaScript, Python, SQL, MATLAB, Shell Scripting, Haskell
- **Technologies and Frameworks:** Git, Docker, AWS (Lambda, Redshift, S3), BigQuery, React, HTML, CSS, ROS
- **Others:** UNIX

TECHNICAL WORK EXPERIENCE

Google — Zürich, Switzerland
Software Engineering Intern **(C++, SQL, JavaScript, HTML, CSS)** — Jul 2019 – Sep 2019

- **Independently implemented** a full front-end feature by utilizing internal frameworks that were outside the team's expertise, thereby **unblocking a feature launch** that was due in a month.
- Developed a feature which involved heavily modifying and refactoring a **distributed pipeline (C++, Dremel)** to call several RPC targets as part of a larger migration milestone.
- **Independently worked across teams** to build several back-end infrastructure tools **(C++)** as part of a larger migration milestone.
- Exposure and proficiency in **over 17** internal tools and technologies.

Skyscanner — Edinburgh & London, United Kingdom
Software Engineering Intern **(JavaScript, Python, SQL)** — Jun 2018 – Mar 2019

- Built features in **React Native** for the Skyscanner mobile app.
- Migrated monolithic legacy services to containerized micro-services, utilizing CI/CD technologies **(Docker, Drone)** and cloud hosting services **(AWS S3 and RedShift)**, resulting in **better scalability and performance**.
- Refactored **Python and SQL** code in a data forecasting tool, reducing its runtime from **hours to seconds**. Fixed logical errors in **BigQuery queries** that negated statistically significant errors in the model.
- Developed a tool that triggers **AWS Lambda** to stream S3 access logs to **Kafka**, plotting downsampled metrics in **Grafana**.
- Heavily refactored a **NodeJS** application, resulting in **better scalability** and a **cleaner codebase**.

Bima Mobile (Mobile Insurance Technology Company) — Singapore
Data Analyst Intern **(Python, SQL)** — Jun 2017 – Aug 2017

- Created a customer retention toolkit over Splunk using **SQL** resulting in greater transparency over key metrics.
- Analyzed data sets with **Python** and created automated processing tools and regression models.

ENTREPRENEURIAL/LEADERSHIP EXPERIENCE

Imperial College Drone Society — London, United Kingdom
Co-founder — Jan 2017 – Present

- London's first student-led hotspot for drone enthusiasts with over 600 subscribed members in 2018/2019.
- Initiated the first ever drone makerthon called "Print N Fly" sponsored by Autodesk, where over 100 participants CAD modelled their own micro-drone. Finalists 3D printed and raced their models around a circuit.
- Initiated and executed the society's launch event with 250 attendees and leading industry/academic experts.
- Organized the first "DroneX" - a series of talks showcasing companies and projects with actual use cases of drone technology.
- Co-organized the Harrow Club Robotics Workshop, a class aimed teaching high-schoolers the basics of building a quadcopter.

SELECTED PROJECTS

- **Medicair – Autonomous Drone Delivery (C++, Shell Scripting, Python, ROS):** Developed a set of ROS libraries **(C++)** to capture and improve the state estimation (implementing a Kalman filter) of any Android device, as well as a suite of data analysis tools **(Python, Bash)** for the drone. This was submitted as part of the course's 3rd Year Group Design Project, which **won the Best Overall Teamwork award**.
- **"To-be-confirmed" (Python):** Worked alongside Bombardier to develop a DFS-based algorithm that automates 6 man-hours/day of manual train scheduling processes in a rolling stock company. This project **achieved second place for Hacktrain 4.0**.
- **The-Flighter (PostgreSQL, Python, AngularJS):** A price alert service that runs a batch job that calls a flight-booking API and alerts a user of a discount for his/her favorite flight route. Worked on back-end by setting up a Postgres database over Heroku and designed a RESTful API over Flask in Python. Designed the entire project workflow over an object-oriented paradigm. Submitted for HackUPC 2017.
- **Minesweeper (Haskell):** CLI Minesweeper developed with a focus on purely functional programming**.**