Cole Killian

cole@colekillian.com — colekillian.com — github.com/ruborcalor

Developer Skills

Programming Languages Javascript (React, Express), Python (Django, Locust), Bash, LaTeX, Java, C++, Lua
Tools/Services Google Cloud Platform, Google Cloud Computing, Firebase, Firestore, Stripe

Experience

Harvard High Performance Computing: Web Dev and Performance Testing Intern 2020

Refactored the user account creation pipeline, increasing processing speed by **15** times (Python, Bash).
Coded performance tests which exposed high load averages on web server hosts. Identified the source of the load and found a way to reduce it by **70%** (Locust).
Built a dashboard that enables non technical users to develop a thorough understanding of the Harvard super computer status (React, Passenger, Node).

Artifai Co-Founder 2020

Making neural style technology available to non technical users, while streamlining the process for users to purchase their art on a poster/canvas.
Architected the backend for performing neural-style (Google Cloud Computing and Firebase Functions).
Developed the user authentication and social databases (Firebase, Firestore, and Node.js).
Built the user interface. Visit the business at https://artif.ai (React, Webflow).

NeuroTech: Dashboard Team 2020

Worked with Neurotech to build a non-invasive forearm band that can predict which keys a user is typing without the need for a keyboard. Applications include augmented reality.
Constructed a dashboard for visualizing realtime ML model predictions and signal data (React).
Developed a server for interfacing between ML model predictions and frontend applications (SocketIO, Python).

Age Prediction From Methylation Data Via Machine Learning 2019

Engineered a machine learning model for predicting a human's age based on the methylation data extracted from their blood sample (Keras).
Achieved **100%** accuracy ± 10 years and $> 90\%$ accuracy ± 5 years.
Deployed a web interface that enables clients to interact with the machine learning model. Users can tune each of the 25 features and see how predicted age changes (Django).
Presented research at McGill Science and Synergy. Made the front page of Hacker News with over 100 upvotes.

Harvard High Performance Computing: Web Dev and Database Intern 2019

Deployed a web interface that enables hundreds of clients to view, request, or terminate their storage allocations (Django).
Designed a mysql database model for tracking storage allocations and storage transactions (MySQL).

Aspine Co-Founder: Website and PWA Development 2018 - 2019

Architected Aspine, an Open Source project that revolutionizes the user interface for Aspen, a grade checking service, with many new features and improved aesthetics (Node, HTML request mimicking). Github — https://Aspine.us
Reverse engineered an API for extracting student information from Aspen using HTML request mimicking (Node.js).
Aspine is now preferred by over **500 students**.

Education

McGill University — B.Sc. Honors Stats and Comp Sci — Coursework — CGPA 3.97 Expected 2022

Awards and Honors

University: McGill Renewable Killam Entrance Scholarship, Faculty Of Science Scholarship
High-school: Harvard Book Award, Straight A Award, Excellence in Mathematics Award, Outstanding French Award

Hobbies and Interests

Gym, playing guitar, walking, jogging, and hiking.
Entrepreneurship, blogging, competitive programming, optimizing workflow (.spacemacs, .zshrc, .i3/config).