Cole **Killian**

Software Architect · Fullstack Developer

Cambridge, MA

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Software Skills

Programming Javascript (React, Material-UI, Express), Python (Django, Locust), Bash, LaTeX, Java, C++, Lua

Tools/Services Google Cloud Platform, Google Cloud Computing, Firebase, Firestore, Docker, Kubernetes, Terraform, Stripe

Work Experience

Harvard High Performance Computing — *Cambridge, MA*

Software Engineer Intern — *Jun. 2020 - September. 2020*

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

Artifai — *Cambridge, MA*

Co-founder & Software Engineer — *Mar. 2020 - Present*

- 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. To date there have been over **2500** artifaications (React, Webflow).

NeuroTech — *Montreal, QC*

Software Engineer — *Feb. 2020 - Present*

- Working 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 pipeline for interfacing between ML model predictions and frontend applications (SocketIO, Python).

Epigenosys — *Montreal, QC*

Software Engineer — *Sept. 2019 - Dec. 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 — *Cambridge, MA*

Software Engineer Intern — *May. 2019- August. 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 — *Cambridge, MA*

Co-founder & Software Engineer — *Jan. 2019, June. 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. Aspine is now preferred by over **500 students**.
- Reverse engineered an API for extracting student information from Aspen using HTML request mimicking (Node.js).

Honors & Awards

2020 **McGill Faculty of Science Scholarship,** — *Montreal, QC*

2019 **McGill Major Renewable Entrance Scholarship,** — *Montreal, QC*

2018 **Harvard Book Award,** — *Bethesda, MD*

Education

McGill (CGPA 3.97) — *Montreal, QC*

B.S. in Honors Computer Science and Math. List of Coursework — *Aug. 2019 - Apr. 2022*