

# Cole Killian

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## Experience

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### Age Prediction Via Methylation Data and Machine Learning - 30 Hours 2019

- Developed a machine learning model in Keras for predicting a human's age based on a blood sample. Achieved 100% accuracy  $\pm 10$  years and  $> 90\%$  accuracy  $\pm 5$  years.
- Developed a [web interface](#) in Django that enables clients to interact with the machine learning model. Users can tune each of the 25 features and see how predicted age changes.
- Wrote a python notebook script for downloading and parsing raw methylation data from an [NIH database](#).

### Libravos Cofounder: Phone insurance made better - 50 Hours 2019

- Developed a mobile phone app in react-native that allows users to interact with a natural language processing ai chatbot. [Devpost](#)
- Accepted to McGill's Lean Startup Program. [Pitchdeck](#).

### Harvard Research Computing: Web and Database Intern - 350+ Hours 2019

- Developed a web interface in Django that enables clients to view, request, or terminate their storage allocations remotely.
- Designed a mysql database model for tracking storage allocations and storage transactions.
- Used Python to create a command line interface for interacting with the novel database.

### Aspine Cofounder: Website and PWA Development - 120+ Hours 2018 - 2019

- Developed <https://aspine.us>, a web interface that revolutionizes the user interface for Aspen, a grade checking service, with many new features and improved aesthetics. [Github](#) — <https://Aspine.us>
- Aspine is now preferred by over 700 students. It generates revenue by displaying ads for school clubs.
- Specifications: Uses Node.js and HTML request mimicking to extract students' information and display it nicely in a web app.

### FIRST Robotics Team Controls Leader - 150+ Hours 2018 - 2019

- Developed a vision processing system for automating the operation of the robot using WPILib, a library desinged to simplify using OpenCV from a robot program.
- Constructed a driver control system in Java that allowed the robot to be operated remotely over wifi via a joystick.

### Peer Partners: Admin, Developer, and Tutor - 350+ Volunteer Hours 2016 - 2018

- Wrote a google scripts text mining program that saves the Peer Partners administration 100 hours a year by automating the parsing of a several thousand-row long google sheet
- The script also aids with pairing those in want of academic assistance and those capable of delivering academic assistance.

## Education

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McGill University — B.Sc. Honours Statistics and Computer Science Expected Graduation 2022

Harvard University — Concurrent enrollment during high school

## Awards and Honours

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McGill Renewable Killam Entrance Scholarship

Harvard Book Award, Straight A Award, Excellence in Mathematics Award, Outstanding Achievement in French Award.

## Extracurricular Activities

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Artificial Intelligence Club, Entrepreneur Club, Competitive Programming Club, Debate Team

Boston Sailing Center Frostbiting League. Placed first place out of twenty teams.

Competitive gymnast, Varsity diver, Varsity sailor, Captain of the winning Central Maryland Physics Olympics Team.

## Hobbies and Interests

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Playing guitar and singing in a band, street performing, and managing my guitar cover YouTube channel

Going to the gym, cooking, walking, and hiking

Entrepreneurial Programming Projects

Optimizing my workflow (.vimrc, .bashrc, .i3/config)

## Technical Skills

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**Programming Technologies**      Python (and Django), L<sup>A</sup>T<sub>E</sub>X, Javascript (and Node.js), Java, Bash, SQL, Plotly