

# Kai Ferrall

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## SKILLS

**Languages** — Python 3, Node.js, JavaScript/HTML5/CSS3, Java, C

**Frameworks/Libraries** — Express, React, Redux, OpenCV, NumPy, pandas, jQuery, Junit

**Tools/Other** — Google Cloud Platform, MongoDB & MySQL, API creation/integration, networking & HTTP, Redis, regex

## EXPERIENCE

**ecobee** — Software Engineer Intern

05/20 - present

Working with internal stakeholders to build and optimize business systems.

Developed drop-ship data pipeline with Google Cloud and various SFTP services, **saving \$50,000/yr.**

Architecting and creating various distributed pipelines to handle customer order validations, reducing error costs.

**Pitch Development** — Full Stack Developer

05/19 - 09/19

Worked directly with designers and clients, gained great professional communication/collaboration experience.

Developed generalized media microservice, utilized across 3 applications, saving ~ **60 hours** of work.

Created cache service with Redis, on average **saving 176ms per authenticated request.**

**Acouter** — Frontend Developer

05/18 - 09/18

Developing generalized React.js components for flexible use across application.

Implementing UX features, and UI features from Figma.

## PROJECTS & CLIENT WORK

**Sexual Assault Centre App**, Android App

2017/2018

In a team of 4, designed and developed an Android app for the Sexual Assault Centre of Kingston.

Java, Android Studios, XML

**Viral Disease Model**, Opinion Dynamics Model

2018

In a team of 4 developed a GUI and model, simulating agent movement and viral disease infection.

Agent infectivity modelled with opinion dynamics.

Web scraped 10 year historical data to test model accuracy.

MATLAB, Python, Matplotlib, pandas

source

**HeadtoHead.ca**, CMS Subscription Platform

2019

Developed **full admin and user authentication system** along with subscription platform using Stripe API.

Application has been **live with subscribers for 1.5 years.**

Express, React + Redux, MongoDB, Stripe API

private github live application

**Feedback**, Web App

2017/2018

Developed anonymous live feedback platform, to allow my professors to garner feedback more easily.

Included live poll results and graphics, unique code for form that closes after set time period.

Used **natural language processing on comments**, to classify as positive or negative.

Express, React + Redux, MongoDB

github live application

## EDUCATION

**Queen's University** — BAsC. Applied Mathematics and Computer Engineering

2017 - 2022 (internship)

**Engineering Society Software Development Team** — Team Lead

**EngLinks** — Engineering Tutor

**Relevant Course Work**

Data Structures, Digital & Embedded Systems, Control Theory, Signal & Systems Theory, Calculus 3, Computer Architecture, Probability 1 & 2, Linear Algebra 1 & 2, OOP for engineers.