

Kai Ferrall

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EDUCATION

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

2017 - 2022 (1 year 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.

EXPERIENCE

Amazon — Software Development Engineer Intern

Jun. 2021 - Aug. 2021

Owned, designed and developed tool for station managers to configure authentication checks for drivers. **Reducing ticket volume by ~90%.**
Created React.js frontend, Java backend with 100% JUnit test coverage and integrated with internal Amazon authentication services.
Engineered AWS CDK to automate deployment through all stages and regions (Beta to Prod).

ecobee — Software Engineer Intern

May 2020 - May 2021

Worked with & managed internal stakeholders to automate and optimize business systems.
Developed distributed data pipeline in Google Cloud to monitor and report order, invoice and fulfillment failures, **saving ~\$50,000/yr.**
Engineered API to automate generation of FedEx and UPS return labels to service RMA pipeline which **saves ~\$2 million/year.**

Pitch Development — Full Stack Developer

May 2019 - Aug. 2019

Worked directly with designers and clients, gained great professional communication/collaboration experience.
Developed RESTful media microservice, utilized across 3 applications to handle images and video.
Created middleware cache service with Redis and Node.js, on average **saving 235ms per authenticated request.**

PROJECTS & CLIENT WORK

Sexual Assault Centre App, Android App

Jan. 2018 - Apr. 2018

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

HeadtoHead.ca, CMS Subscription Platform

Apr. 2019 - Aug. 2019

Developed backend as a REST API which integrated with Stripe to create user subscription system.
Worked with client and designers to create UI/UX features for React.js frontend.
Application has been **live with subscribers for 1.5 years.**
Express, React + Redux, MongoDB, Stripe API
private github live application

Feedback, Live Feedback Web App

Sept. 2017 - Jan. 2018

Developed anonymous live feedback platform, to allow professors to garner feedback from students more easily.
Used Charts.js to display live data results, and created custom form generation system with React.js.
With **natural language processing on comments**, classified them as positive or negative feedback.
Express, React + Redux, MongoDB
github live application

SKILLS

Languages — Python, Node.js, Java, TypeScript & JavaScript, C, HTML5, CSS3

Frameworks & Libraries — GraphQL, React.js, JUnit, Redux, Dagger (DI), Express.js, Flask, JQuery

Tools/Other — Amazon Web Services, Google Cloud Platform, git, MongoDB, MySQL, API creation/integration, Regex, Redis