

KAI FERRALL

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EDUCATION

QUEEN'S UNIVERSITY

Kingston, ON

Bachelor of Engineering, Applied Mathematics and Computer Engineering

2017 – 2022

Engineering Society Software Development Team: Team Lead

Relevant Coursework: Data structures, Embedded systems, Computer Architecture, Calculus 3, Linear algebra 2, Probability 2, OOP for engineers, System theory, Control theory, Signal theory

EXPERIENCE

AMAZON

Toronto, ON

Software Development Engineer Intern

Jun. 2021 – Aug. 2021

Owned, designed and developed application to allow delivery station managers to configure driver authentication methods, in order to reduce Last Mile Proctor team ticket volume by ~90%.

- Architected API to service application and integrated with 4 internal tier 1 services.
 - Wrote Java backend with 100% JUnit test coverage and created API contracts with Smithy models.
- Created frontend with React.js serviced by GraphQL proxy API utilizing internal Amazon authentication system.
- Engineered AWS cloud development kit (CDK) to automate deployment pipeline for all stages of development and 8 different regions.
 - Architected infrastructure using Lambda, API Gateway, Route 53, VPC, Cloudformation, and IAM.

ECOBEE

Toronto, ON

Software Engineer Intern

May 2020 – May 2021

Engineered distributed systems in Google Cloud to optimize business solutions for internal stakeholders. Met with 3 different teams to aggregate requirements and implement business logic.

- Designed and developed data pipeline to monitor order, invoice and fulfillment failures saving ~\$50,000/year.
 - Reported data to Slack bot saving operations team ~10 hours/week of manual work.
 - Wrote complex XSD schemas to validate data in the pipeline.
- Designed and implemented API to generate FedEx and UPS return labels to service high usage RMA pipeline which saved ~\$2 million/year.

PITCH DEVELOPMENT

Kingston, ON

Full Stack Developer

May 2019 – Aug. 2019

Met and collaborated with clients to aggregate requirements for building custom web application solutions.

- Engineered general Redis and Node.js middleware package for caching user authentication data, saving on average 235ms/request.

SELECTED PROJECTS

LIVE FEEDBACK APPLICATION

Nov. 2018 – Apr. 2019

Web app for professors to garner student feedback easily live during lectures. Allowed for form creation by professor and private access code for students to give insight. Demoed in 2 lectures. Used Node.js, React.js, Redux, MongoDB.

SAC ANDROID APP

Jan. 2018 – May 2018

In a team of 4 collaborated to create an Android app for the Sexual Assault Centre of Kingston. Used Android studios, Java and XML.

SKILLS

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

Other: Working in an Agile team. API development. Engineering distributed systems with cloud computing. Creating complex frontend applications with React.js. Cross team collaboration, and stakeholder management.

Tools/Frameworks: Amazon Web Services, Google Cloud Platform, JUnit, React.js, MongoDB, Express.js, Redux, jQuery, Regex