

# Joshua Cheng

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## Skills

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**Languages** Python, JavaScript/TypeScript, Java, SQL, C++, C, Scala

**Software** React, Flask, GraphQL, Spring, AWS, Node, Docker, Kubernetes, Airflow, OpenCV, Git

## Experience

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### Boosted.ai

New York

FULLSTACK DEVELOPER

May 2022 - Aug 2022

- Pioneered new client facing feature, surfacing proprietary machine learning findings on what to invest in using **React** and **Java**
- Reduced server load through a generic passthrough service forwarding requests to **Python** microservices with **Java Spring**
- Developed service for visualizing patterns in investment models and generating summary statistics with **JavaScript**

### Pronti AI

Waterloo

BACKEND AND INFRASTRUCTURE DEVELOPER

Sept 2021 - Dec 2021

- Developed password-less 2FA email registration and login, onboarding **1100+** new users over 3 months using **Python** and **AWS**
- Improved horizontal scaling and reduced load times by **200%** by adding async routing requests to **AWS Lambda** functions with **Flask** and **Kubernetes**

### FairVentures

Waterloo

SOLUTIONS DEVELOPER

Jan 2021 - Apr 2021

- Increased performance of a Loss Run extraction tool and reduced output file size by **10x** by adding preprocessing to improve optical character recognition results by **200%** using **Python** and **OpenCV**
- Implemented an abstraction layer to pass file metadata through **Python Airflow DAGs**, adding parallelization
- Developed an email bot to process and route questions to a deep-fake chat model, exposed on a **GraphQL** endpoint using **Prefect**

### University of Waterloo Faculty of Engineering

Waterloo

SOFTWARE DEVELOPER

May 2020 - Aug 2020

- Designed a KenKen puzzle solver in **C** and reduced the runtime by **50%**, through implementing a breadth-first search algorithm
- Migrated a spaceship physics game from **Unity** to **Godot** using **C#**, deployed faculty wide to **2000+ students**

## Projects

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### Business Insight Extractor and Interpreter

BUSINEXT.AI

- Developed an open-source image classification web page with **TypeScript**, **Node**, **GraphQL**, **Docker**, and **React** to automate the process of gathering restaurant statistics for an insurance underwriter
- Built an image extraction provider to detect localized objects and determine image labels using **Google Vision API**

### Heat Source Mapping Drone

PROJECT BRETT

- Programmed an autonomous drone in **Python** and **C**, scanning areas of heat with a precision of **0.01 °C** to aid in wildfire detection
- Designed an algorithm to create heat maps using **kernel density estimation** to extrapolate missing heat values with **Matplotlib**

## Education

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### University of Waterloo

Waterloo, ON

BACHELOR OF SOFTWARE ENGINEERING

Sep 2019 - Present

- COURSES: Algorithms, Operating Systems, Introduction to Database Management, Data Structures & Data Management
- TEACHING ASSISTANT: SE 101 Introduction to Methods of Software Engineering