

# Oliver Xie

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## SKILLS

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- **Languages:** Java, C#, JavaScript (React, Node.js), TypeScript, Python, HTML, CSS, SQL (SQL Server, Postgres), C
- **Platforms:** Windows, Linux, Amazon AWS, Microsoft Azure
- **Tools:** Docker, Git, NoSQL (DynamoDB, Cosmos DB), Nginx

## WORK EXPERIENCE

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### Amazon Web Services (AWS)

May 2022 - Aug 2022

Software Development Engineer (Intern)

Vancouver, BC

- Defined 10+ customer-facing metrics: names, dimensions, units, resolutions, and measurements published to CloudWatch Metrics for Amazon EventBridge Pipes
- Adapted internal monitoring agent to run in a sidecar container pattern for Elastic Container Service/Fargate service processing 230K events per second with minimal additional latency on the service critical path
- Constructed a deployment pipeline for AWS accounts and IAM roles scoped for metrics upload, limiting blast radius and automatically creating resources for all stage (gamma, prod), region, and cell (sub-regional) units
- Continuously deployed code and infrastructure using AWS Cloud Development Kit (CDK) and AWS CloudFormation
- Wrote unit tests using JUnit and Mockito; improved package code coverage to 90% by testing empty input
- Fixed bugs in team Postman collections, IntelliJ run configurations, and Docker Compose, reducing development toil

### Change Healthcare

Sep 2020 - Apr 2021

Software Development Engineer (Co-op)

Richmond, BC

- Led ASP.NET Core (C#) identity server security upgrade for all Change Healthcare Radiology Solutions instances globally, eliminating 5 major CVEs as attack vectors
- Refactored code to use SOLID principles while maintaining existing configuration and Couchbase database access
- Secured file upload validation for C# PACS backend while supporting various DICOM and image formats
- Ported 30+ hotfixes over a 2-week sprint to the latest version to support a large-scale customer product upgrade
- Improved security and performance in Visual C++ modules by eliminating over 50 resource leaks and unsafe pointers

## PROJECTS

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### Project Blue

Sep 2021 - ongoing

- Created a state machine using Python and an image classifier using Keras to automate gameplay for a mobile game
- Made a data pipeline to retrieve and preprocess 15,000 images from local gameplay and external videos
- Trained a neural network that predicts with 95% accuracy, speeding up clear times by 50% with no loss in effectiveness compared to manual play

### Pokémon Mystery Dungeon Speedrun Tracker

Apr 2020 - Aug 2021

- Prototyped in Django, now deployed on Azure Functions (C#) with GitHub Actions CI/CD
- Polled speedrun.com API periodically and used Cosmos DB to cache results
- Completely automated manual process (saving 2h/month), easily scaled to handle category reorganizations

### BGC Coursys

May 2020 - Aug 2020

- Built a self-service course-scheduling app using Node.js/Express and Postgres, reducing admin management time by 40%
- Used socket.io to show course waitlists and update enrollment in real-time
- Controlled project scope to allow on-time delivery despite losing 40% of team capacity
- Performed automated API testing using Mocha, Chai and Postman and UI testing using Selenium

## EDUCATION

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### Simon Fraser University

Sep 2019 - Apr 2023

Bachelor of Science in Computing Science

3.87 GPA

- USES Scholarship with Distinction (full-ride tuition, estimated value \$35,000+)
- CSSS Director of Events: Organized a hackathon and cross-club social events with 300+ attendance per semester
- CS Peer Tutor: Mentored students in first and second-year computing science classes
- HIVE Leader: Served as an virtual/physical orientation facilitator and a Wayfinding Champion (tour guide)