

# Karen Hong

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Full-stack developer with 3+ years of industry experience working with large-scale distributed systems.

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## WORK EXPERIENCE

### Amazon Web Services - SNS

Vancouver, Apr 2022 - Present

#### SOFTWARE DEVELOPMENT ENGINEER II

Java, Spring

- Led the re-integration of SMS functionality when a critical internal dependency introduced significant changes. Managed multiple contributors and aligned stakeholders including engineers from the other service, product managers, UX, documentation, and security teams.
- Planned and executed a cross-service data migration between production tables backing live APIs in 14 regions with no downtime or customer impact.
- Provided mentorship to junior team members and supported their delivery of new features.
- Reduced ticket load by introducing additional traffic shaping patterns, increased automation, improved tools for log retrieval, and strengthened the service's security posture.
- Operated on a 24 hour on-call rotation, actively mitigating and resolving critical service issues.

### Amazon Web Services - SNS

Vancouver, Oct 2020 - Mar 2022

#### SOFTWARE DEVELOPMENT ENGINEER I

Java, Spring

- Founding member of the application-to-person (A2P) team responsible for the SMS, push notification, and email delivery protocols within SNS.
- Owned the release and implementation of the top requested customer-facing feature to add support for token-based authentication when delivering to Apple Push Notification service endpoints.
- Guided and mentored an intern through project deliverables, providing regular feedback and support.
- Contributed to multiple feature releases including the introduction of new APIs to the service.

### Software Practices Lab - UBC | ETH Zürich

Vancouver, May 2020 - Aug 2020

#### UNDERGRADUATE RESEARCH ASSISTANT

Rust

- Introduced a new feature to Prusti, a program verification tool for Rust programs.
- Designed the syntax for specifying external code such as the Rust standard library and other unmodifiable packages.
- Implemented the mechanism for adding specifications on externally defined methods and top-level functions using Rust compiler intermediary representations.

### Verity Studios

Zürich, Sep 2018 - Apr 2019

#### SOFTWARE DEVELOPMENT INTERN

C++

- Designed and developed a desktop application to trigger the execution of drone choreographies in time with music. Integrated the application into the operational software suite of the drone show system.
- Assisted in client demonstrations, conducted flight experiments, and developed features for the drone telemetry software.

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## ACADEMIC BACKGROUND

### The University of British Columbia

Apr 2020

#### BACHELOR OF SCIENCE IN COMPUTER SCIENCE, WITH DISTINCTION

- Completed the co-op program with 20 months of internship experience at three different software companies.
- Coursework in operating systems, distributed systems, compilers and programming languages, programming design, database systems, etc.
- Exchange semester at ETH Zürich.

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## PROJECTS

### Smart Soles - UBC New Venture Design Program

2020

#### A smart wearable insole and complimentary software platform

Javascript

- Developed a minimal viable product to validate the business case of a smart wearable insole and partner mobile application designed for seniors to track balance, diagnose levels of stability over time, and recommend exercises for balance improvement.

### Dragon Adventure Bonanza - UBC Video Game Programming Course

2019

#### A multi-level 2D platform game including game engine

C++, OpenGL

- Managed the development of a multi-level desktop game that includes animation, physics-based controls, AI enemy movement, and collisions.
- Implemented core game components such as the game engine and rendering system.
- Elected best game by an industry panel and most fun by popular vote.