

Ian Gu

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EXPERIENCE

Amazon AWS

Jul 2023 – Current

Software Developer Engineer

Toronto, ON

- Led development on core components for Aurora PostgreSQL Limitless Database, which provides automated horizontal scaling
- One of two primary developers on the distributed transactions agent (C++), the core coordination component
- Built topology change propagation system to notify distributed agents of node updates (addition/removal, replicas, failovers), improving cluster awareness and consistency
- Implemented comprehensive health and metric monitoring system for the agent, enabling real-time alerting and diagnostics
- Eliminated cyclic deployment dependency by designing a launch-parameter-driven configuration input system for the agent
- Developed multi-node performance metrics framework to capture, aggregate, and publish agent runtime statistics
- Enhanced operational reliability by improving SOP documentation and authoring automation/debugging scripts, reducing on-call load
- Owned multiple major and patch version releases, resolving test failures, addressing operational concerns, and refining runbooks

Meta (Facebook)

Sep 2022 – Dec. 2022

Software Developer Engineer Intern

Menlo Park, CA

- Implemented and deployed a functional voice clip recorder in React and ReScript on Instagram Web by creating and integrating new components with current direct message infrastructure
- Deployed necessary modifications to all direct thread endpoints in preparation for user cutover from open threads to encrypted threads

Amazon AWS

May 2022 – Aug. 2022

Software Developer Engineer Intern

Toronto, ON

- Developed C-based diagnostic tools for Aurora PostgreSQL to detect clock drift and orphaned prepared transactions, supporting engineers in monitoring and debugging
- Improved service reliability by enabling faster root cause analysis and reducing issue resolution time

Loyalty One

Sep 2021 – Dec. 2021

Software Developer Intern

Toronto, ON

- Built an internal asset manager tool for AEM (Adobe Experience Manager), cutting deployment time by up to 45 mins

PickEasy Inc.

May 2021 – Aug. 2021

Software Developer Intern

Toronto, ON

- Implemented enhancements in SQL queries to reduce user wait time on home page by over 50%
- Polished and implemented new features in Flask and React-native for a restaurant service, resulting in 800% increase in organic growth of restaurants using the service
- Developed and released a gratitude journal app from scratch to supply some passive income to the company
- Experimented with new technologies by creating mini projects to investigate feasibility of new features

EDUCATION

University of Toronto

Toronto, ON

Honours Bachelor of Science in Computer Science, Software Engineering Specialist

Sep. 2018 – Jul. 2023

TECHNICAL SKILLS

C, C++, Java, Python, JavaScript, React, PostgreSQL (Aurora), AWS (Aurora, EC2), Docker, CI/CD, Distributed Systems, Performance Monitoring