HOWARD CHEN

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EDUCATION

University of Toronto
Honours BS Computer Science *GPA: 3.85*

WORK EXPERIENCE

Amazon AWS - EC2 AutoScaling Vancouver, CA
SDE I 07/2021 - Present

- Designing, building, and maintaining a highly available, multi-zonal service that serves as the backbone of AWS Cloud Computing for millions of customers.
- On-call responsibilities include responding and resolving customer-impacting events, using various techniques to minimize customer impact.
- Taking ownership of various projects to improve customer experience when using EC2 AutoScaling through feature development, and working directly with customers and stakeholders to develop the best customer experience.

Amazon AWS - EC2 AutoScaling Seattle, WA
Junior SDE 06/2020 - 08/2020

- Designed and implemented a public facing EC2 AutoScaling feature that allows customers to define custom AWS Lambda functions that dictate which EC2 instances within the ASG will be terminated first. Customers of this feature can ensure that their EC2 instances terminate based on active workloads, or other customer defined metrics.
- Worked with various internal and external customers EC2 AutoScaling to gauge interest and find optimal customer experience.

Amazon AWS - Forcasting Platform Seattle, WA
Junior SDE 05/2019 - 08/2019

- Developed an AWS internal product that gives customers the ability to use time-series data and various pre-baked and customer analytical techniques to forecast service demand in the future.
- Responsibilities included designing service architecture, creating the service stack composed of AWS Services, and maintainance of operational health.
- The service further enables customers to debug and test their products and scripts, and provides them with the tools to analyze performance automatically.

SKILLS

Languages:	Java, SQL, C/C++, Python, Linux, Shell, Verilog, JS/HTML/CSS
Frameworks:	PostgreSQL/MongoDB, React, Next.js, Angular, JavaFX
Products:	Amazon Web Services, EC2, AutoScaling, IAM, SQS, Cloudwatch

PROJECTS

AWS - Custom Termination Policies *EC2 AutoScaling, Lambda, IAM* go.aws/3HN1Bnc
Designed and created a system that allows customers of EC2 AutoScaling to dictate which instances should be prioritized for termination. Through integration with customer's defined Lambda functions, EC2 AutoScaling is able to more effectively prioritize instances based on worksloads running on customer's instances, or other customer-defined metrics.

UofT Map *Android, Google maps API, Java* bit.ly/UofTMapApp
Developed a University of Toronto campus map, which integrates data on various building locations, restaurants, parking and emergency services. After a sucessful launch, we reached #2 Trending on Maps and Navigation within a day. So far we have exceeded 1000 downloads over two years.

Horizon Watering Map *Flutter/Dart, dart2js, ArcGIS* github.com/EDToaster/horizon_watering_map
An Flutter web applciation to track municipal trees and corresponding watering schedules. Custom-built as a replacement for a legacy system, it improved worksite efficiency to 240% with features such as automatic route importing, Google Sheets integration, and an intuitive presentation.

Toast CPU *CPU Architecture Design, RTL Design, SystemVerilog* github.com/EDToaster/ToastCPU
Designing my own homebrew 16-bit CPU architecture, accompanied by full Application Binary Interface specification. Also designed were a custom assembler language, FPGA implementation, and an emulator for faster debugging and compilation.