

David Zhang

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Languages Python, Java, Kotlin, Typescript/NodeJS, Swift, Objective-C, Scala, C++
Technologies Google Cloud, AWS, gRPC/Protobuf, Flask, GraphQL, Temporal, Airflow
Android, React Native, Docker, Gradle, Bazel
Databases Cloud Spanner, MySQL, PostgreSQL, MongoDB, Redis
Tools Git, IntelliJ, Terraform, Xcode, Android Studio, Visual Studio Code

EDUCATION

University of Waterloo

Sep 2013 - Apr 2018

Bachelor of Software Engineering (Dean's Honors List with Distinction)

WORK EXPERIENCE

Software Engineer, Web Infra @ Cash App (Block Inc)

Mar 2023 - Present

Seattle WA

- Work on many aspects of Cash App's core web infrastructure such as web service backend, observability, CDN edge network & security, data analytics and build pipelines
- Apply infrastructure-as-code tools to systematically manage configurations across the web stack
- Assist in the migration of web service logic from legacy monolith to new microservices

Software Engineer, Catalog @ Scale AI

Nov 2022 - Mar 2023

Seattle WA

- Integrated image-text bimodal ML models and externalized APIs for classifying product taxonomy
- Combined OCR (optical character recognition) ML models and OpenAI GPT3 prompting to provide enhanced attribute extraction capabilities using image and text from catalog products

Software Engineer, Spectacles AR @ Snap Inc

Sep 2021 - Nov 2022

Seattle WA

- Created experimental augmented-reality lenses to demonstrate hand-tracking capabilities
- Architected and built metrics framework to improve observability of lens usages and performance
- Integrated Maven/Bazel into in-house OS-agnostic IPC framework for use in Android services
- Added build integration pipeline to improve development efficiency for lens updates on firmware
- Explored new capabilities and expanded Snap's intellectual properties via the following patents
 - AR-based virtual keyboard (SLW#4218.F40US1 /// Snap# P02228-US1)
 - Gesture-based keyboard text entry (SLE#4218.F39US1 /// Snap# P02227-US1)
 - Hand-tracked text selection and modification (SLW# P02237-US1 /// Snap# 4218.F59US1)
 - Mixed reality media content (SLW# 4218.H91US1 /// P02493-US1)
 - Near-field communication for pairing wearable devices (SLW#4218.J47US1 /// P02677-US1)
 - Waterproof UAV for capturing images (ANON-440US1 /// P02471-US1)

Software Engineer, Catalog @ Snap Inc
Seattle WA

Aug 2018 - Sep 2021

- One of the founding engineers for building PCS (product catalog service), overseeing a scalable advertiser-facing API platform and various data pipelines to support Snap's dynamic product ad (DPA) and AR/commerce shopping experience offerings
- Leveraged Dataflow and Airflow to build metadata export pipeline between BigTable & BigQuery, built relevant Looker visualizations off of BigQuery for DPA top-level metrics
- Built generic job workflow framework that powers set categorization of products and items of other verticals, processing millions of items simultaneously
- Implemented GraphQL API that fronts all requests from advertiser-facing Business Manager and Ads Manager to the backend service via async gRPC client, reducing load time of Business Manager for large advertisers by up to 96%
- Designed and built generic reporting framework and APIs to facilitate self-diagnosis of catalog issues for advertisers, reducing customer support requests by 50% HoH

OTHER EXPERIENCES

Mentor, Engineering Academy @ Snap Inc
Seattle WA

Apr 2022 - Aug 2022

Mentor, St. Joseph Center Codetalk
Seattle WA

Nov 2020 - Jul 2022

Co-op Intern, Data Engineering @ Snap Inc
Los Angeles CA

Sep 2017 - Dec 2017

Co-op Intern, Ads Mobile Engineering @ Snap Inc
Los Angeles CA

Jan 2017 - Apr 2017

Co-op Intern, iOS Mobile Engineering @ FiveStars
San Francisco CA

May 2016 - Aug 2016

Co-op Intern, Frontend Web Engineering @ Oanda
Toronto ON

Aug 2015 - Dec 2015

Co-op Intern, Backend Web Engineering @ Eventmobi
Toronto ON

Jan 2015 - Apr 2015

Co-op Intern, SIEM Engineering @ Trustwave
Cambridge ON

May 2014 - Aug 2014