

# Zach (Zuqi) Li

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## EXPERIENCE

**Microsoft** | Software Engineer - Autosuggest & Shopping Relevance

Sept 2018 - Present (Intern @ Sept 2017 - Dec 2017) | Redmond, WA

C#, Python, Scala, Spark, Azure, ML.NET, TensorFlow, Databricks, TypeScript



- Developed on **Microsoft Bing for Commerce** services and data pipelines to provide intelligent autosuggest for **Dynamics 365 Commerce** and large-scale retailers
- Designed a classifier for suppressing suggestion types given context and achieved an F1-score of **0.91**; significantly decreased defect-rate and improved side-by-side metrics
- Built and maintained a service for powering all non-prefix-match autosuggest; handles **~2,500 QPS** per instance and has a 99th percentile latency of **~20 ms**
- Developed the **autosuggest ranker** of the Chromium-based Edge browser using a regression model; side-by-side metrics showed similar performance as Chrome
- Prototyped and productionized an **n-gram** and an **RNN** language model for next word prediction; improved user engagement by increasing the autosuggest coverage by **~20%**
- Tuned the autosuggest relevance of Windows Search Box, Edge, and Bing by analyzing query patterns and experimentation

**LinkedIn** | Data Infrastructure Intern - Media Infrastructure

Jan 2017 - Apr 2017 | Sunnyvale, CA

Java, Kafka, MySQL, Ambry



- Helped launch LinkedIn's **media infrastructure** for processing and serving all digital assets
- Designed and deployed a distributed **end-to-end validation/performance testing** service
  - Handles scheduling, traffic generation, metrics collection, data validation, and alerting
  - Used for experimentation, automating customizable tests, and failure monitoring

**Yahoo!** | Software Engineering Intern - Yahoo! View Web

May 2016 - Aug 2016 | Sunnyvale, CA

Node.js, React, Fluxible, MySQL, AWS, Chai, Mocha



- Created **Yahoo! View** as part of the web team; hosted **thousands** of TV shows and movies
- Implemented core UX components, business logic, and automated functional/unit tests
- Integrated **Tumblr** content into Yahoo! View to show relevant official and fan posts

## PROJECTS

**KaeSwap** | Website | Next.js, Apollo GQL, Flask, Postgres, AWS S3, Docker Dec 2018 - Present

A platform for fans to trade and resale their albums/posters/merch; received **thousands** of pageviews and **hundreds** of concurrent active users during the KCON LA event

**Discord Helper Bots** | Node.js Client | Node.js, Firebase, Discord API Aug 2018 - Present

Chatbots that power **additional functionalities** on top of Discord servers: custom emoji/gif and sticker reactions, media sorting and archiving, lyrics/YouTube scraper, and logging

**LUQL** | iOS App | Node.js, React Native, MobX, Firebase Jan 2017 - Sept 2017

A mobile platform for locals and tourists to post, discover, and book tours around their area

**MelonWatch** | OpenGL App | C++, OpenGL, OpenAL Aug 2017

A 3D OpenGL first-person shooter; built completely from scratch featuring dynamic shadow mapping, particle system, and physics engine

## SKILLS

### Languages

- JavaScript
- Python
- Java
- C#
- C++
- Scala
- SQL
- HTML / CSS

### Frameworks

- Web
  - React
  - Apollo GraphQL
  - Express
  - Flask
  - Redux
  - MobX
  - Angular
- Data
  - Spark
  - ML.NET
  - TensorFlow
  - Hadoop
- Application
  - React Native
  - Android SDK
  - .NET
  - OpenGL

### Databases

- PostgreSQL
- MySQL
- MongoDB

### Tools

- Node.js
- AWS
- Microsoft Azure
- Firebase
- Docker
- Jupyter
- Git

## EDUCATION

**University of Waterloo**

Bachelor of Software Engineering  
Sept 2013 - Apr 2018