# Zach (Zuqi) Li

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## EXPERIENCE

### Microsoft | Software Engineer - Autosuggest Relevance

Sept 2018 - Present (Prev. Sept 2017 - Dec 2017) | Redmond, WA

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

- Developed a classifier for suppressing bad autosuggest and implemented **suggestion type ranking** using the classifier with data-driven heuristics; Achieved an F1-score of **0.91**
- Developed the core **autosuggest ranker** of the Chromium-based Edge browser using a regression model; side-by-side metrics showed **parity** against Chrome autosuggest
- Built and deployed an Azure microservice for serving all non-prefix-match autosuggest; handles **~2,500 QPS** per instance and has a 99th percentile latency of **~20 ms**
- Developed an **n-gram** and an **RNN** language model for predicting the next words of user queries; improved user engagement by increasing the autosuggest coverage by **~20%**
- Maintained data pipelines and tuned the relevance of Windows Search Box, Edge, and Bing.com autosuggest through analyzing query patterns and experimentation

### LinkedIn | Data Infrastructure Intern - Media Infastructure

Jan 2017 - Apr 2017 | Sunnyvale, CA

Java, Kafka, MySQL, Ambry

- Helped launch LinkedIn's **media infrastructure** for processing and serving all media assets
- Designed, built, and released a distributed **end-to-end validation** and **performance testing** service for the media processing infrastructure
  - 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

- Developed and launched **Yahoo! View** entirely within a strict timeline of 2 months as part of the web team; served **thousands** of TV shows and movies
- Built React components in accordance with UX design standards; backend business logic and APIs; and the functional testing infrastructure + tests for Yahoo! View
- 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