

# Zach (Zuqi) Li

Software Engineer | University of Waterloo

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## EXPERIENCE

### Software Engineering Intern | Microsoft

Fall 2017 | Redmond, WA

Python, C#, TensorFlow, LINQ, MS Cosmos (Internal Data Processing Platform)



- Built an **n-gram language model** using past Bing queries to predict the next words of incomplete user queries
- Integrated **next word prediction** into Bing's autosuggestion pipeline to show suggestions for uncommon queries; improved overall suggestion coverage by **23%**
- Built and trained a **recurrent neural network language model** for superior predictions; model captures long-term dependencies and semantic relationships between words

### Data Infrastructure Intern | LinkedIn

Winter 2017 | Sunnyvale, CA

Java 8, Kafka, MySQL, Ambry



- Worked on and helped launch Vector - the **media processing** infrastructure for processing, managing, and serving digital media assets
- Designed, built, and released VectorValidation - a distributed **end-to-end validation** and **performance testing** framework for media processing. Framework is:
  - Configurable with custom user logic and handles traffic generation, pipeline monitoring/alerting, quality/latency metrics collection, and data validation
  - Used by media teams for performing experiments, collecting key metrics, and monitoring for failures

### Software Engineering Intern | Yahoo!

Spring 2016 | Sunnyvale, CA

ES6, Perl, Node.js, React, Fluxible, MySQL, AWS



- Created and launched **Yahoo! View** ([view.yahoo.com](http://view.yahoo.com)) within 7 weeks as part of the web team; built core UI components and API endpoints
- Optimized inefficient APIs and integrated AWS CloudSearch for improved performance; reduced avg response time to under **200ms** and increased max QPS capacity by **30x**
- Integrated **Tumblr** with Yahoo! View to provide official and fan posts related to shows
- Setup the entire backend integration testing infrastructure for Yahoo! View

## PROJECTS

LUQL | Node.js, React-Native, MobX, Firebase

January 2017 - Present

A platform to help locals create and guide tours for travellers, tourists, and adventurers

MelonWatch | C++, OpenGL, OpenAL

August 2017

An OpenGL FPS; built the entire game engine from scratch featuring dynamic shadow mapping, a particle system, and a physics engine

Angora | Node.js, Angular, MongoDB, Jade/Pug, Less

January 2016

A platform where users explore various hairstyles and review local hairstylists

Terre | C++, Cocos2d-X

February 2015

A physics simulation sandbox for building star systems with dynamic lighting effects

## SKILLS

### Languages

- JavaScript
- Java
- C#
- C / C++
- Python
- HTML / CSS
- Bash
- ARM Assembly

### Frameworks

- TensorFlow
- React / React Native
- Angular
- Express
- MobX
- Less / Sass
- OpenGL
- Android SDK
- Java Spring Framework

### Databases

- MySQL
- PostgreSQL
- MongoDB

### Tools

- Spark
- Hadoop MapReduce
- Kafka
- Node.js
- Firebase
- Git
- Maven
- Webpack

## EDUCATION

### University of Waterloo

Bachelor of Software Engineering  
Sept. 2013 - April. 2018

## INTERESTS

- Build apps
- Make music
- Catch pokémon