💻 4B Bachelor of Computer Science
🏛 University of Waterloo
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Ben Zhang

(Some also call me "Chuan Tian")

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TL;DR

- Received an "Outstanding" (highest) evaluation on University of Waterloo's coop system during every work term.
- Able to quickly adapt to and thrive in many different types of work environments through experiences at companies of all sizes.
- Practical understanding of embedded systems and real-time programming obtained through building a real-time microkernel from scratch in CS 452 (Real-Time Programming, aka "Trains").

Serious Stuff

Software Engineer (Intern) @ Apple Inc.
May 2019 - Aug. 2019
Cupertino, California

"He is a self motivated, focused engineer who strives to look at problems in depth..."

- Implemented bandwidth prediction infrastructure and bandwidth recording optimizations that improved Time-To-HD and Time-To-4K metrics by over 60% in Apple's video player for HTTP Live Streaming.
- Created a self-certification suite to streamline the process of onboarding 3rd party partners.

Software Engineer (Intern) @ Hive.AI
Jan. 2019 - Apr. 2019
San Francisco, California

"Ben is the best intern we have ever had on our team and one of the strongest engineers at the company."

- Rewrote a data export pipeline and over 50x'd the speed for large exports by making use of idle resources and optimizing caching and concurrency.
- Invented a polygon consensus algorithm using vertex-voting and multi-density clustering techniques. This algorithm landed the company multiple large-scale projects.
- Implemented a Node.JS Streams library with batching, bucketing and concurrency control capabilities.

Frontend Developer (Intern) @ Yahoo!
Jan. 2018 - Apr. 2018
Sunnyvale, California

"...Though this was a lot of additional work, he did it all with a smile."

- Migrated most of Yahoo Mail's settings pages from plain Redux to Yahoo's in-house Action Syncer architecture, which greatly accelerated the development of offline capabilities for the entire Mail platform.
- Designed a system to allow a React component to capture an arbitrary element's scroll event, enabling developers to better implement a consistent and intuitive user experience.
- Implemented a new flow for the vacation response settings page and added the ability to add images, GIFs and emojis to automatic replies. This was featured in a TechCrunch article.

Backend Developer (Intern) @ Kik
Jan. 2017 - Apr. 2017
Waterloo, Ontario

"Ben has undoubtedly excelled at the role he played within our organization."

- Took ownership of a key microservice and optimized code base to handle a 5x increase in traffic.
- Designed and implemented two additional microservices that directly align with Kik's focus of creating a safer community.
- Reimplemented core moderation logic using task queues, which vastly reduced server timeouts.
- Rebuilt an internal metrics system to triple the amount of information available.

Languages & Frameworks

🕷 Experienced   🧑 So-so   ⚗ Novice

🕷 C	🕷 Javascript
🕷 React	🕷 Redux
🕷 Node.js	🧑 ARM asm
🧑 C++	🧑 Python
🧑 OCaml	🧑 Docker
🧑 PHP	🧑 SQL
🧑 Java	🧑 Bash
⚗ Go	⚗ Nix

Not-So-Serious Stuff

Vocode (Hackathon Project)

- 100% voice-enabled, Javascript-based text editor. Powered by Nuance's Natural Language Understanding API.
- First place winner of the Nuance API prize at McHacks 2016.

(H)open Source (Hackathon Project)

- Platform to connect non-profit organizations with volunteer software engineers.
- Won the Moxtra API prize at HackTheNorth 2015.

Waterloo Warriors Band (non-techy, ongoing)

- Lead trumpeter
- Deputy Chief Centurion (Vice-president) and Tech-nomancer (Webmaster)