# Stephen Cheng

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## SKILLS

- **Programming:** JavaScript (ES6), TypeScript, React, Redux, Python, C#, C++, Flask, Django, Node.js, CSS (less, sass), Algorithms and Data Structures
- **Technologies:** Relational database, SQL server, Cassandra, MongoDB, Elastic, Redis, Azure, Web Sockets, WebRTC, NextJS, Mobx, git scm, MySQL, Postgresql, distributed systems, microservices architecture
- **Quantitative:** Data Analysis, Linear Algebra, Probability and Statistics, Discrete Mathematics

## WORK EXPERIENCE

**Microsoft | Software Engineer, Azure | Seattle, WA** Jan 2020 - Present

- Utilized TypeScript, React, and mobx to design and implement a single-page app (SPA) prototype for metadata management, which led to a MVP with > 10k monthly active users. Established high standards for code cleanliness and extensibility.
- Utilized React lazy-loading to implement a modular and snappy edit experience, utilizing json configuration files to reduce duplicated code.
- Developed generic and extensible React UI components with built-in telemetry to track usage and bugs in the UI, which enabled the team to gain a better understanding of our users. These components were contributed to company-wide component libraries.
- Introduced best practices in React unit and integration testing to reduce time spent on manual testing, helped on-board team members to the new codebase. Reduced test suite total run time by over 50% to ~20 seconds.
- Developed APIs in C# and .NET in existing backend systems to support CRUD operations for new metadata
- Designed and developed a stand-alone microservice REST API in C++ for validating complex metadata queries. Optimized the system's SQL queries for better performance.
- Participate in on-call incident response and customer support, part of a team-wide joint effort.

**Indeed | Software Engineer, Application Developer | Austin, TX** May 2018 - Nov 2019

- Worked closely with a UI designer to develop a library of reusable and maintainable (SOLID) React and ES6 components to modernize the look and feel of several web-applications.
- Used modern CSS extensively to create an organized and consistent approach to styling. Created a pleasant and intuitive user experience.
- Wrote and configured a comprehensive front-end test suite using Jest and Enzyme to reduce manual testing, developed unit-tests and integration tests. Refactored existing code to be clean and modular, introduced better state maintenance in Redux, fixed dozens of bugs during the process.
- Used Python, Django, MongoDB, and django-rest framework extensively to develop core features on a candidate management platform. Designed appropriate data models and integrated with several external APIs.
- Scaled Python Flask API service to handle high volume of requests by implementing Redis caching and query optimizations, reduced response times by over 30% on average.

**Columbia University | Bioinformatics Engineer, Research Assistant | New York, NY** Sep. 2016 - Jun. 2017

- Engineered genetic data processing programs and genome reconstruction in Python to analyze 10,000+ pages of human genome data.
- Improved runtime and resiliency of existing implementation of Burrows-Wheeler transform through exploiting Python language features.
- Developed comparison of linear models simulation with R; wrote user guide summarizing empirical results.

**Nextmark | Software Engineer, Intern | Hanover, NH** Jun. - Aug. 2015

- Reduced campaign statistics generation time by 97% by developing AngularJS dashboard to provide quick summaries of user activity.
- Built API feature to enable automatic generated powerpoints, optimizing powerpoint generation time by 3X.
- Reduced manual testing by 30% by expanding existing test coverage. Wrote 100+ unit tests in Jasmine.
- Resolved over 50 pull requests for feature improvements and bug fixes for a web-based platform where users can manage marketing campaigns using JavaScript and jQuery.

## EDUCATION

**Cornell University,** *B.A. Computer Science, Mathematics* May 2016

## PROJECTS

### Order-matching engineer

*Simulates a basic stock exchange function, supports market and limit orders and matches orders based on depth of market.*

- Developed a RESTful API in python flask to apply some things I learned about stock exchange mechanics.

**Spam Classifier** Jun. - Jul. 2017

*Processes large bodies of text composed of email contents and identifies which emails are spam.*

- Built a data processing and cleaning program using Python, NLTK and RegEx; implemented N-gram and Naive Bayes models to achieve over 85% classification accuracy.

## Activities

**Google Code Jam 2019, Online Qualifier** Mar. 2019- Present

**Volunteer English teacher, Yang Ming Shan, Taipei, Taiwan** Jun. - Aug. 2016