ZIHENG ZHUANG

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SKILLS

- **Programming languages:** Java, C, C++, Javascript, Typescript, Python, HTML, CSS, SCSS, SQL, Dart
- **IDE/Editors:** Vim, Visual Studio Code, IntelliJ, Visual Studio, Eclipse
- **Software:** Git, Node.js, Express, Spring Boot, Flutter, React, Redux, LLVM, MongoDB, Phabricator
- **Software Development:** Data Structures, Algorithms, Design Patterns, Problem Solving Skills

EXPERIENCE

Meta - Software Engineer Intern   August 2022 - November 2022
- Unified diverged text feature extraction components into a standalone workflow unit
- Reduced facebook search junkiness by introducing a new feature score computation component using **C++**

Hudson River Trading - Software Engineer Intern   May 2022 - August 2022
- Implemented **Clang** front-end syntax checks to reduce engineering errors over large codebase using **C++**
- Engineered compiler front-end modules to modernize code across large C++ codebase using **C++**
- Developed a helper tool to assist with codebase refactoring using primarily **C++**
- Improved trading efficiency by writing financial product access tool using primarily **C++** and **MySQL**

Intel Corporation - Software Engineer Intern   May 2021 - April 2022
- Decreased area and latency of FPGA by designing compiler optimization passes using **LLVM** and **C++**
- Added features for FPGA compilers to enable and optimize proper C++ header generation for automated FPGA design using **C++**, **LLVM** and Perl
- Automated compilation flow for hybrid compiler by writing Perl scripts and adding compiler modules
- Completed tutorials for customers by recording experiments on the effect of compiler flags on performance

EDUCATION

University of Toronto   September 2019 - May 2023 (expected)
Honours Bachelor of Science with high distinction, *Software Engineering Specialist*
- **Teaching Assistant:** Software Design, System Programming, Principles of Programming Languages, Introduction to Computer Science
- Achieved Distinguished Marks: Software Design, Unix Programming, Web Development, Algorithm Design

PROJECTS

Conterview   February 2021 - April 2021
- Developed a interview website in a team of 3 to provide continuous interview experience for companies
- Implemented shared code editor and real-time video meeting to increase interview speed by **30%** using **WebSocket**, **WebRTC** and **React**
- Enhanced interview reflectiveness by constructing secured code execution engine using **Docker** and **Node.js**
- Achieved flexible development by deploying reverse proxy using multiple docker containers and **Nginx**

SportCred   September 2020 - December 2020
- Built a cross-platform content creation and delivery mobile app for sport enthusiasts using **Flutter** and **Android Studio** in a team of 5
- Improved server response time by **50%** and development time by **23%** using **Spring Boot** and **Firebase**

MiniCC   January 2021 - April 2021
- Architected a compiler for C language subset using **LLVM**, **Antlr4** and **C++**
- Improved the performance of generated program by **21%** and analysis efficiency by promoting variables from memory to registers in a optimization pass

EXTRACURRICULAR ACTIVITIES

ACM-ICPC East Central North America Regional Programming Contest   October 2019, February 2021
- Won 18th, 14th place respectively by solving advanced algorithm problems like Dynamic Programming

AWARDS & ACHIEVEMENTS

University of Toronto Scarborough Dean's List 2020, 2021