ZIHENG ZHUANG

linkedin.com/in/zihengzh | zihengzh.com | neoclear@outlook.com | github.com/NeoClear

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

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++

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
- Maintained code compatibility and prevented feature regression by writing integration and regression tests using Perl and LLVM integrated tester
- 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
- Increased user experience by building modularized dashboard UI using Ant Design

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
- Provided precise and fast post recommendation system to attract users using MySQL and ML algorithms

MiniCC

January 2021 - April 2021

- Architectured 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