Bowen Zhang

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Education

- **Wuhan University** *Hongyi Honor College·Computer Science* Sept. 2017-Jun. 2021 Bachelor
  - CGPA: 3.81/4.00, Rank: 2/31
  - Award: Scholarship of Academy(2018-2019, 2019-2020), Outstanding Student(2018-2019, 2019-2020)

- **University of California at Berkeley** *Summer School* Jun.-Aug. 2019
  - Courses: Structure and Interpretation of Computer Program(A+), Game Theory in Social Sciences(B+)

- **Research Interests**：Programming languages, compilers, static program analysis

Work Experience

- **Tencent** *System Testing Engineer Intern* Dec. 2020-Apr. 2021 Shenzhen, China
  - Software testing: perform interface testing(whitebox), END-To-END testing(black box) and smoothness testing (front-end) on several modules of the cell phone recharge business in Wechat Pay
  - Python code specification: Fix more than thousands of code specification problems in the Python testing code
  - Code generation tool: given a protobuf file, it can generate testing code automatically.

- **Alibaba** *Compiler Engineer Intern* Jun.-Sept. 2020 Hangzhou, China
  - SPEC Analysis on LLVM vs GCC: This work was aimed to address the performance gap between LLVM and GCC by analyzing the SPEC program deepsjeng. Collected runtime data, compared the assembly code generated by GCC and LLVM, and designed verification experiments. Summed up a report that included 20 opportunities for LLVM in compilation optimizations
  - Built a cross-compile toolchain(aarch64-linux-gnu). This toolchain includes binutils, glibc, gdb, and cross compilers(gcc, g++, gfortran). It enables C/C++/Fortran programs to be compiled on x86 and execute on aarch64

- **Hangzhou FTC E-Commerce Ltd** *Intern* Mar.-May 2020 Hangzhou, China
  - Developed a shopping website selling groceries. Customers can browse and purchase the goods and trace their orders. Translated the product information and advertisement from Chinese to English

Project

- **An Online Texas Poker Platform** *Software Engineering Project* Apr.-Jun. 2020
  - Developed a texas poker platform with Java. Players can play online with other players or play against AI. The project contains 5 modules(UI, game logic, platform logic, networking, AI strategy). Served as the team leader and product manager. Responsible for team management and project results reporting. Designed the general framework, implemented platform logic module and networking module, completed the packaging and deployment of the entire project

- **Zlisp Language Interpreter** *Personal Project* Jan.-Mar. 2020
  - Developed an interpreter with stack VM for Scheme language(a dialect of Lisp) using C language. The interpreter is divided into 3 modules. The parser module constructs the AST; the code generating module then generates the stack bytecode, and the virtual machine module can read and execute the bytecode

- **TOTEM Database on Android** *Course Project* Dec. 2019-Jan. 2020

- An object deputy database developed with Android Studio. By entering SQL statements, users can perform database operations on Android's file system. 7 types of queries are supported. The project consists of 4 modules(UI, compilation, execution, storage). Responsible for the compilation module and the integration testing of the whole project

- **Tour Guide App** *Undergraduate Training Programs for Entrepreneurship* Apr. 2019-May 2020
  - An electronic guide WeChat applet. It was developed for the Cherry Blossom Festival of Wuhan University. It provides tourists with text and audio tours of the scenic spots. Responsible for the UI development of the navigation interface, the whole server-side development, and the deployment and maintenance

Teaching Experience

- **Computer System Fundamental** *Teaching Assistant* Sept.2020-Jan.2021 Wuhan University
  - Provide students with guidance on 5 laboratories in CSAPP(Computer System: A Programmer's Perspective), including data lab, bomb lab, buffer lab, perf lab, and shell lab. The work includes writing experimental instructions, designing testing programs, and answering students' questions

Skills

- **Programming languages**: C, C++, Scheme, Python, Java, Haskell, Golang, JavaScript, LaTeX, SQL

- **Framework**: Proficient in Git and Linux, familiar with ARM ISA, understand LLVM architecture

- **Languages**: Chinese(mother tongue), English(bilingual)

Referees Information

- Hanfei Wang, Associate Professor, School of Computer Science, Wuhan University. Mail to: hfwang@whu.edu.cn

- Chunxiang Wu, Associate Professor, School of Computer Science, Wuhan University. Mail to: wuchx@whu.edu.cn