Bernard Teo Zhi Yi

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Skills and Abilities

- Extremely proficient in (modern) C++
- Proficient in Rust, C, C#, Java; some experience with JavaScript, TypeScript, Swift
- Strong algorithmic problem solving skills
- Familiar with multi-threaded programming, including atomics and lock-freedom

Interests

- Algorithmic problem solving, data structures and algorithms, parallel programming, compiler design, zero-cost abstractions, modern C++

Work Experience

Software Engineer Intern — Jump Trading LLC

June-August 2019, 2020 | C++14/17/20

- In 2019: Attended a four-week training programme, followed by six weeks of work on the market data portion of the trading platform used by trading teams
- In 2020: Built an order gateway for a new exchange; utilised C++20 coroutines to bring usability improvements to internal testing tools

Notable Competitions

ACM International Collegiate Programming Contest (ICPC)

- Ranked 1st at Kuala Lumpur and 4th at Bangkok On-Site Regional Contest 2019
- Ranked 62nd at World Finals 2019
- Ranked 1st at Yangon and 7th at Singapore On-Site Regional Contest 2018
- Ranked 5th at Jakarta On-Site Regional Contest 2017

International Olympiad in Informatics (IOI)

- Bronze Medal in 2013
- Participation in 2012

Google Code Jam

- 163th globally in 2020
- 51st globally in 2019
- 295th globally in 2018
- 834th globally in 2017

Distributed Code Jam

- 155th globally in 2017
- 79th globally in 2016

Notable Projects

Circuit Sandbox

GitHub repository: https://github.com/btzy/circuit-sandbox

Summary poster: https://btzy.github.io/circuit-sandbox-poster.pdf

May-August 2018 | NUS Independent Software Development Project | C++17

- Circuit Sandbox is an open-source desktop cross-platform (Windows, Mac, Linux) sandbox simulation game built with SDL2.0 and designed to be fast and efficient
- Consists of over 12000 lines of C++ code utilizing various C++11/14/17 features
- Implement separate simulation, rendering, and file I/O threads that almost always communicate in a wait-free manner
- Implement generation of circuit graph, and other performance optimizations

Other Experience

National Olympiad in Informatics (NOI) Scientific Committee

January-March 2017, January-July 2020

- Designed and prepared task statements, and ensured quality control of the tasks
- Chaired the NOI Scientific Committee in 2020

Education

2017-present

National University of Singapore
BComp (Hons) in Computer Science
BSc (Hons) in Applied Mathematics
Double Degree Programme
Current CAP (as of June 2020):
5.00 out of 5 (BComp)
4.92 out of 5 (BSc)

Notable modules taken:

- CS3203 Software Engineering Project
- CS3210 Parallel Computing
- CS3230 Design and Analysis of Algo.
- CS3233 Competitive Programming
- CS4215 Programming Language Impl.
- CS4231 Parallel and Distributed Algo.
- CS4234 Optimisation Algorithms
- CS4261 Algorithm Mechanism Design
- MA3110S Mathematical Analysis II (S)
- MA3111 Complex Analysis I
- MA3218 Applied Algebra
- MA3233 Combinatorics and Graphs II
- MA4211 Functional Analysis

Scholarship

NUS Merit Scholarship recipient

Teaching

Teaching assistant for
CS2030 Programming Methodology II:

- Spring 2018 (score: 4.7 out of 5)
- Fall 2018 (score: 4.8, 4.6 out of 5)

Teaching assistant for
CS2106 Introduction to Operating Systems:

- Fall 2019 (score: 4.6 out of 5)

Links

- GitHub: @btzy
- LinkedIn: bernard-teo
- Personal Website: bernardteo.me