

Timothy Choi

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Working rights: no sponsorship required for Hong Kong, the United Kingdom, and Australia

Education

The University of Adelaide

Bachelor of Mathematical and Computer Sciences GPA: 6.33/7

Adelaide, Australia

Feb 2022 – Present

Technical University of Munich

Informatics (Exchange)

Munich, Germany

Apr 2024 – Apr 2025

Experience

Susquehanna International Group

Software Development Intern

C++, Connectivity

Sydney, Australia

Nov 2025 – Feb 2026

- Creating a tool to produce time-consistent output to improve benchmark reliability

Dassault Systèmes

Software Engineer (part-time)

C++, Jira, BitBucket, Jenkins, Python, Rust

Munich, Germany

May 2024 – Mar 2025

- Refactor legacy C++ codebase using the plmpl paradigm, enhancing backward compatibility and reducing code size by over 50%
- Enhance internal debugging tools by designing a more intuitive graphical user interface in C++, improving usability and efficiency
- Parse specification files with Python to generate over 2000 comprehensive testcases to ensure there are no regressions
- Optimize development workflows with Rust, achieving up to a 90% reduction in task times such as compilations

Altacomm Technologies

Software Engineering Intern

Rust, Actix, Astro, GitHub Actions

Adelaide, Australia

Jan 2024 – Mar 2024

- Improved responsiveness and SEO of company landing page, consistently staying on the front page of Google search results

Global Technology Integrator

System Engineer

Batch, Windows AD, Project Management

Hong Kong

Aug 2021 – Nov 2021

- Leading a team of 4+ people, spearheaded the automation and parallelization of our tasks such as registry modification
- Helped resolve our staff shortage by reducing the manpower and time required by ~200%, and in so doing beating the deadline
- Mentored new staff, helping a non-technical audience understand the the basics of Windows AD and Batch scripting

Projects

Open Source Contributions (1M+ users)

Rust

Rust, Standard Library

github.com/llvm/llvm-project

- [std][BTree] Fix behavior of `::append` to match documentation, `::insert`, and `::extend` (#145614) (#145628) (waiting on FCP)

LLVM

C++, Compiler Infrastructure, Semantic Analysis

github.com/rust-lang/rust

- [libc++] Improve `std::filesystem::path::lexically_relative` runtime by up to 40% by avoiding string reallocation (#152964)
- [clang] Add diagnostic when scoped enumeration requires an explicit conversion for binary operations (#152698)
- [clang] Remove 14+ years old redundant check for scoped enums in shift operators (#152865)

Web Apps (600+ annual users)

Binary Search on Color

Algorithm Design, JavaScript

tinnamchoi.github.io/projects/bsoc

- Devised an algorithm that allows people to search the modern color space of over 16 million colors in just 24 clicks
- Inspired by the lack of precision in existing tools, providing a better imagination to reality interface

Negative Base Converter

Math, Number Theory, JavaScript

tinnamchoi.github.io/projects/nbc

- Created a converter for negative base numeral systems by researching the mathematical principles behind it
- Motivated by the lack of existing tools, providing beginners with a better understanding of negative bases

Mobile Apps (400+ monthly downloads)

tmtLauncher

Kotlin

f-droid.org/en/packages/com.tinnamchoi.tmtlauncher

- Minimalist, suckless, efficient Android launcher

Others

Block Model Compression Algorithm

C++, Algorithm Design, Linux

tinnamchoi.github.io/projects/bmca

- Developed an octree-based algorithm in C++ to efficiently compress 3D data in $O(N \log_8 N)$, optimizing storage and processing
- Employed agile methodologies for a group of 7 and enforced good Git practices such as using conventional commits

Volunteering

Adelaide Competitive Programming Club

Problemsetter

C++, Rust

Australia and New Zealand

Feb 2025 – Oct 2025

- Creating and testing competitive programming problems for AllUni (alluni.io) and AUCPL (aucpl.com)
- Competitive programming contests created in collaboration with 20 student clubs across 7 cities in Australia and New Zealand
- Prize pools of \$5,000 and \$2,400 sponsored by Susquehanna (SIG), Jane Street, Citadel, and IMC

Skills

Human languages: English (native), Cantonese (native), Mandarin (C1), German (A2)