

Timothy Choi

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HK: Citizen | UK: BNO | AU: 500 / 485 | TW: TARC | DE: D-Visa

Education

The University of Adelaide

Bachelor of Mathematical and Computer Sciences GPA: 6.33/7

Adelaide, Australia

2022 Feb – Present

Technical University of Munich

Informatics (Exchange)

Munich, Germany

2024 Apr – 2025 Apr

Experience

Susquehanna International Group

Incoming Software Development Intern

C++, Connectivity team

Sydney, Australia

2025 Nov – 2026 Feb

Dassault Systèmes

Software Engineer (part-time)

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

Munich, Germany

2024 May – 2025 Mar

- 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

2024 Jan – 2024 Mar

- Improved responsiveness and SEO of company landing page, consistently staying on the front page of Google search results
- Empower student communities and streamlining the logistical processes by building a full-stack contact and media release page

Global Technology Integrator

System Engineer

Batch, Windows AD, Project Management

Hong Kong

2021 Aug – 2021 Nov

- 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

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 $O(N \log_s N)$, optimizing storage and processing
- Assisting teammates in the implementation of other algorithms such as run-length encoding and Lempel-Ziv compression.
- Employed agile methodologies for a group of 7 and enforced good Git practices such as using conventional commits

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

Hare-Clark C++

C++, CMake, Data Structures

tinnamchoi.github.io/projects/hcc

- Implemented the Hare-Clark electoral system for the Computer Science Club committee to automate our election process
- Replaces the hcvote Python library as previous attempts to use it proved it unwieldy and faulty

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

Purchasing Power Parity Calculator

JavaScript, CSS

tinnamchoi.github.io/projects/pppc

- Purchasing power parity is a way to compare how much money can buy in different countries
- Having multiple countries which I call home, this helps me get a better idea of my finances

Volunteering

Adelaide Competitive Programming Club

Author

C++, Python

Adelaide, Australia

2025 Feb – Present

- Creating and testing competitive programming problems for the Adelaide University Competitive Programming league (aucpl.com)
- An initiative by the club (acpc.io) to introduce competitive programming to university students with workshops and contests
- Prize pool of \$2,400 sponsored by Jane Street, Citadel Securities, and IMC

Skills & Achievements

Skills & Technologies

Daily drivers: C++, Linux, Git, Just, Typst, GitHub

Familiar: Python, JavaScript, Atlassian suite, Bash, Rust, LaTeX, HTML, CSS

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

Prizes & Achievements

Subject prize: Information and Communication Technology 2021

Achiever of the best results amongst peers

University of Adelaide Scholarship: 30% Global Citizens Scholarship

Best possible scholarship for international students