Timothy Choi

 tinnamchoi | ✉ tinnam.choi@gmail.com | 🌐 tinnamchoi.github.io | in tinnamchoi

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

Education

Technical University of Munich   **Munich, Germany**
Informatics (Exchange)   *2024 Apr – Present*

The University of Adelaide   **Adelaide, Australia**
Bachelor of Mathematical and Computer Sciences   *GPA: 6.33/7*   *2022 Feb – Present*

Experience

Susquehanna International Group   **Sydney, Australia**
Incoming Software Development Intern   *C++, Connectivity team*   *2025 Nov – 2026 Feb*

Dassault Systèmes   **Munich, Germany**
Software Engineer (part-time)   *C++, mkmk, Jira, BitBucket, NG Jenkins, Python, Rust*   *2024 May – 2025 Mar*
- Refactor legacy C++ codebase using the pImpl 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
- Optimize development workflows with Python and Rust, achieving up to a 90% reduction in task times such as compilations

Altacomm Technologies   **Adelaide, Australia**
Software Engineering Intern   *Rust, Actix, Astro, GitHub Actions*   *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   **Hong Kong**
System Engineer   *Batch, Windows AD, Project Management*   *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 $O(N \log_8 N)$, optimizing storage and processing
- Employed agile methodologies for a group of 7 and enforced good Git practices such as using conventional commits

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

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

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

IKOM   **Munich, Germany**
Organizer (Cooperations)   *MS Teams*   *2024 Nov – Present*
- Hosted the largest student career fair in Munich and excursions with 300+ partners such as IMC Trading, JetBrains, and more

UoA Computer Science Club   **Adelaide, Australia**
Committee member   *Web Development, Python, C++*   *2022 Dec – 2024 Nov*
- Organized workshops and social events for over 600 paid members, sponsored by Jane Street, Atlassian, VivCourt, and more

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*