

Kyriel Abad

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EDUCATION

National University of Singapore

Singapore, Singapore

Bachelor of Computing in Computer Science with Honours

Aug. 2022 – Present

- Specialisations in Parallel Computing, Programming Languages
- GPA: 4.84/5.00 (ongoing)

EXPERIENCE

Student Software Developer

Jan. 2023 – Present

National University of Singapore

Singapore, Singapore

Student Software Developer I

Jan. 2023 - May 2023

- Played a key role in implementing *scm-slang*, a transpiler for the Scheme programming language into JavaScript
- Collaborated as a team of 2 to integrate *scm-slang* into online education platform *Source Academy*

Student Software Developer II

Jan. 2024 - Present

- Spearheaded enhancement of *scm-slang* as part of self-initiated, independent research venture with a professor
- Expanded on integration of Scheme programming language into *Source Academy* with better module compatibility
- Upgraded capabilities of *scm-slang* to allow for language features beyond interpreter language JavaScript

Undergraduate Teaching Assistant

Aug. 2023 – Dec. 2023

National University of Singapore

Singapore, Singapore

- Taught 2 courses, CS1101S Programming Methodology and CS2100 Computer Organisation
- Delivered weekly tutorial lessons to a class of 6 (CS1101S) / 2 classes (49 students total) (CS2100)
- Assessed student assignments and provided useful feedback
- CS1101S: Received 4.8/5 teacher rating from students (Department average: 4.3/5)
- CS2100: Received 4.4/5 teacher rating from students (Department average: 4.3/5)

Project Assistant

Mar. 2021 – Nov. 2021

Singapore Armed Forces, Naval Inspectorate

Singapore, Singapore

- Cooperated in launch of *SafeGuardian* application, an application used to improve military safety processes
- Streamlined data collection and formatting processes through use of programs to automate work

Training Coordination Clerk

Sep. 2020 – Mar. 2021

Singapore Armed Forces, Officer Cadet School, Midshipman Wing

Singapore, Singapore

- Coordinated logistics preparation for exams or deployments of Naval Officer cadets
- Spearheaded discussion with superiors to automate menial administrative processes
- Devised applications such as *NSFAttendanceBot* to streamline office work

PROJECTS

scm-slang | *TypeScript, React, Scheme, Git*

Jan. 2023 – Present

- Implemented a transpiler from Scheme to JavaScript
- Devised methods to represent Scheme language features in JavaScript
- Enhanced *Source Academy* online platform to enable multi-language support

Cody | *Rust, Assembly, LLVM, Lisp*

Jan. 2024

- Built a compiler for *Cody*, a language based on Lisp in 24 hours for hackathon *Hack&Roll*
- Formulated a language specification in *Backus-Naur* form
- Programmed a compiler in Rust using LLVM package *Inkwell*

Dplatform | *TypeScript, Supabase, PostgreSQL, Git*

May 2023 – Jul. 2023

- Created an application to manage gym bookings and resolve booking conflicts
- Constructed database backend using open-source database *supabase*

ZeroG | *C#, Unity*

Feb. 2022

- Produced a zero gravity first person shooter game in 3 days for online Harvard University course *CS50x*

NSFAttendanceBot | *Python, Telegram API*

Mar. 2021 – Jan. 2022

- Launched a Telegram attendance tracking system to automate attendance collation using *pyTelegramBotAPI*

EXTRA-CURRICULAR ACTIVITIES

Noctua Publicity Committee Head

Residential College 4

- Led a team of 9 members to produce publicity material for house activities
- Designed house merchandise and coordinated with suppliers to produce merchandise
- Oversaw house engagement on social media platforms such as *Instagram*

Aug. 2023 – Present
Singapore, Singapore

RC4Lifting Vice Head

Residential College 4

- Managed RC4 gym and equipment maintenance
- Developed *Dplatform* application with a partner to manage gym bookings

Mar. 2023 – Present
Singapore, Singapore

RC4Café Vice Head

Residential College 4

- Executed fortnightly cooking sessions to teach cooking skills and foster community spirit in RC4
- Planned and tested recipes for each session

Feb. 2023 – Present
Singapore, Singapore

SJI Military Band Executive Committee (Recruiting Officer)

Saint Joseph's Institution

- Supervised training of 30 recruits to hone musical and military skills and knowledge
- Planned and executed band activities such as concerts
- Achieved SYF Distinction in 2017

Jun. 2016 – Jun. 2017
Singapore, Singapore

SKILLS

Leadership

Teaching

Systems Thinking

TECHNICAL SKILLS

Languages: Java, Python, C, Rust, JavaScript, TypeScript, Coq, Scheme, Lisp

Frameworks: React, Node.js, JUnit, Unity, LLVM

Developer Tools: Git, VS Code, IntelliJ, Vim, Emacs

Libraries: pyTelegramBotAPI, estree, supabase

LANGUAGES

English Native proficiency

Japanese Working proficiency