

Education

National University of Singapore

Aug 18 to present

- Bachelor of Computing (Hons): Major in Computer Science (CAP: 4.40/5) & Bachelor of Science (Hons): Major in Applied Mathematics (CAP: 4.47/5) (Double Degree)
- Expected Date of Graduation: May 2023
- Focus Area: Algorithms and Theory, Programming languages
- Modules Taken: Type Theory, Logic for Proofs and Programs, Compiler Design, Advanced Operating Systems, Mathematical Logic, Logic and Foundations of Mathematics
- Teaching Assistant:
 - CS1101S: Programming methodology (1 semester, SICP in Javascript)
 - CS1010E: Programming methodology (4 semesters, Python for Engineering students)

Oregon Programming Languages Summer School (OPLSS)

Jul 21

Attended the OPLSS 2021 virtually.

Research and Work Experience

Research Intern

May 22 to Aug 22

Gallinette, INRIA

Worked on formalizing the Coq Module system in the MetaCoq project, proving fundamental typing properties and correctness of the Coq implementation in Coq itself. Project is continued as my bachelor's thesis (in progress, defending in Apr 2023).

Intern, Machine Learning Engineer

May 20 to Sep 20

Gojek Singapore

Jointly designed and packaged a Google BigQuery to Apache Kafka **data ingestion tool** that increased ingestion rate from ~10k to > 3000k rows/second using Google Cloud Dataflow.

Software Engineering Intern

May 19 to Aug 19

Computing for Voluntary Welfare Organisations (CVWO), NUS

- Streamlined and digitized volunteering workflow for more than 100 students every year by developing and maintaining a **Volunteer Management System** for the GIC Sparks and Smiles program.
 - For more than 6000 clients and 100 staff, reduced operating costs and increased the accuracy of data capture by maintaining a **Case Management System** for the Counseling and Co-parenting Centers by CareCorner.
-

Publications

A Stepper for a Functional JavaScript Sublanguage ([paper](#), [slides](#), [recording](#))

Martin Henz, Thomas Tan, Zachary Chua, Peter Jung, Yee-Jian Tan, Xinyi Zhang, Jingjing Zhao
In *ACM SIGPLAN conference on Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH-E) 2021*

I wrote the small-step semantics [evaluator](#) of a functional JavaScript sublanguage in the above paper during my freshman year summer break individually. This is now used by all CS students of NUS in their first programming course, CS1101S.

Other conferences attended: PLMW@PLDI 2021, TYPES 2022

Awards

NUS University Scholars Programme - Honour Roll (2020/21)

NUS School of Computing - Honour List of Student Tutors (2019/20)

Malaysian Computing Olympiad - National Joint 13th place (2018)

VIVACE National Piano Ensemble Competition - National Champion (2017)

Scholarship and Grants

Dr Goh Keng Swee Scholarship

Aug 18 to present

Prestigious full scholarship awarded to 3-4 selected students annually from 15 Asia Pacific economies, by the Association of Banks in Singapore (ABS).

MOE ASEAN Scholarship

Nov 13 to Dec 17

Offered by the Ministry of Education (MOE) in Singapore to rigorously selected students from ASEAN countries to study in Singapore until high school graduation, with expenses fully covered for 4 years.

Clubs and Societies

NUS Piano Ensemble - Member (2018-2023)

Classical pianist by training, I hold the Licentiate of Trinity College London (LTCL) in Piano Performance and was the Champion of VIVACE National Piano Ensemble Competition for Tertiary Institutions in Singapore in 2017.

NUS Chinese Orchestra - Member (2018-2023), Erhu II Principal Player (2020), Double Bass Principal Player (2021)

Head, USClassical (Residential College Classical Music Interest Group, 2020)

Head, USDevs (Residential College Technological Development Club, 2020)

Other than organizing classical music recitals, I joined development projects such as Laundry Bot and maintaining the Student Club website.

Representative, Inter-Faculty Games (Badminton, 2018) and Inter-College Games (Volleyball, 2021)