

Timing Liu

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Education

UNIVERSITY OF CAMBRIDGE

Bachelor of Medicine, Bachelor of Surgery (MB BChir)

United Kingdom

Bachelor of Arts

2025

NATIONAL JUNIOR COLLEGE (FULL SCHOLARSHIP)

2022

Advanced Level

Singapore

2018

Publications

Liu T and Chong SS. Peer Review Report For: The FRAXA and FRAXE allele repeat size of boys from the Avon Longitudinal Study of Parents and Children (ALSPAC) [version 1; peer review: 2 approved with reservations]. Wellcome Open Res 2019, 4:116

Liu T, Wang FS, Cheah FSH, Gu Y, Tay SKH, Law H-Y, Gecz J, Nelson DL, Chong SS. Simplified Duplex Triplet-Primed PCR Screen of the FMR1 CGG and AFF2/FMR2 CCG Repeats for FRAXA- and FRAXE-associated Disorders. (submitting in April)

Loh B, Jiang L, **Liu T**, Kong-Vega N, Ganesan G, Tan KB, How TS, Koh J. Charlson Comorbidity Index is a Strong Predictor of 10-Year Mortality in Surgically Treated Hip Fracture Patients. (submitting in April)

Selected Awards

First Runner-up, Poster Presentation at National University Health System Paediatrics Week, 2019

Valedictorian, Science Research Programme, National University of Singapore, 2018

Best Paper Award as the first author, International Researchers Club Conference on Science, Engineering and Technology, 2018

Gold, Singapore Science and Engineering Fair, 2018

Merit, Anatomy Challenge, Nanyang Technological University, 2018

First Runner-up, Poster Challenge, Nanyang Technological University, 2017

Best Poster Award, West Zone Centre of Excellence Science Students Symposium, 2017

Second Runner-up, Circuit-Chem Chemistry Practical Challenge, National University of Singapore, 2017

Silver, Nanyang Research Programme Symposium, 2017

Academic Award (overall top student for academic performance), National Junior College, 2016 and 2015

Champion, Astronomy Competition Advanced Section, Nanyang Polytechnic, 2016

Silver, Singapore Junior Chemistry Olympiad, 2016

Selected Research Experience

CAMBRIDGE CLINICAL TRIAL UNIT

United Kingdom

Full Stack Mobile Application Developer

Mar 2020 – Present

- Developed mobile applications for clinical trials on COVID-19

STOP THE SPREAD

United Kingdom

Full Stack Web Developer

Mar 2020 – Present

- Developed website (<https://stopthespread.info>) to disseminate accurate information and provide support to the public during COVID-19 epidemic

MEDTECH FOUNDATION

United Kingdom

Deputy Team Lead and Software Engineer

Oct 2019 – Present

- Coordinated a team of engineers, biological scientists and medical students to develop innovative neurosurgical tools to minimize brain tissue damage

NATIONAL UNIVERSITY OF SINGAPORE

Singapore

Research Assistant (Bioinformatics and Genetics)

May 2017 – Present

- Undertook three projects on preimplantation testing for chromosomal and monogenic disorders with Oxford Nanopore and Illumina sequencing and provided remote bioinformatics support
- Mentored undergraduate students and prepared high school students for Singapore Science and Engineering Fair 2019 where they were awarded Gold
- Developed a molecular diagnostic assay for Fragile XE Syndrome and transformed the assay into a duplex assay that also diagnoses Fragile X Syndrome
- Investigated the local allele frequency of repeats at the Fragile XE Site and the site's association with cognitive disorders

NANYANG TECHNOLOGICAL UNIVERSITY AND NATIONAL JUNIOR COLLEGE

Singapore

Student Research Team Leader

January 2015 – April 2017

- Led groups students to investigate the parameters that affect the filtration efficiency of membrane bioreactor and efficiency of heavy metal adsorption using agricultural side products (watermelon peels processed with powdered activated carbon)

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Courses

UNIVERSITY OF CAMBRIDGE
HARVARD UNIVERSITY
JOHNS HOPKINS UNIVERSITY
UNIVERSITY OF CALIFORNIA SAN DIEGO
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
SINGAPORE MANAGEMENT UNIVERSITY
STANFORD UNIVERSITY
PENNSYLVANIA STATE UNIVERSITY

Workshops: Snakemake, Open Targets and JMP Software Tools
Data Analysis for Genomics
Genomic Data Science, Mastering Software Development in R
Bioinformatics
Molecular Biology
Problem Solving with Programming Language Ruby
Machine Learning, Writing in the Science
Epidemics - the Dynamics of Infectious Diseases

Programming Skills

Advanced: R, Python, Bash

Intermediate: Ruby, C#, XAML, HTML, CSS, PHP, JavaScript, SQL, machine learning

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Other Awards

Distinction, Chemistry, Physics, Mathematics, Economics and Project Work in SEAB-GCE Advanced Level, 2018

Merit, Pharmaceutical Chemistry, General Paper in SEAB-GCE Advanced Level, 2018

Distinction, Higher Chinese in SEAB-GCE O Level Certificate, 2016

Champion, Mandarin Speaking Award, Young Men's Christian Association, 2015

Other Research Experience

SYNTHETIC BIOLOGY SOCIETY, UNIVERSITY OF CAMBRIDGE

United Kingdom
Oct 2019 – Present

Member

- Attended research workshops to learn how to better integrate biological and computational interfaces

NATIONAL HEART CENTRE SINGAPORE

Singapore

Student Research Team Leader

April 2017 – November 2017

- Led a group of five students to conduct a literature review on the technological development in the treatment of aortic stenosis

SINGAPORE GENERAL HOSPITAL

Singapore

Research Associate

November 2016 – December 2016

- Collected and analysed data for a Singapore Health Services funded project to develop a risk score for predicting in-hospital mortality after hip fracture in the elderly patients

Clinical Experience

LIANYUNGANG TRADITIONAL CHINESE MEDICINE HOSPITAL

China

Attachment Student in Cardiology

December 2016 – January 2017

- Attended ward rounds, outpatient clinics and observed interventional cardiology, dental and Traditional Chinese Medicine acupuncture procedures

SINGAPORE GENERAL HOSPITAL

Singapore

Research Associate

November 2016 – December 2016

- Attended ward rounds, outpatient clinic sessions, bedside teaching, and observed at cadaveric dissection classes with the medical students
- Attended teaching sessions with the physio and occupational therapist

Volunteering Experience

TAN TOCK SENG HOSPITAL

Singapore

Volunteer

January 2017 – March 2019

- Visited hospitalised patients biweekly to and engaging them with cognitive activities that reduce their risk of delirium
- Coordinated between volunteers to encourage attendance and guiding new volunteers to interact with the elderly
- Organised a String Orchestra performance to bring joy to patients before Christmas
- Learned to speak dialects to communicate with elderly patients

NATIONAL JUNIOR COLLEGE

Singapore

First-Aid Instructor

January 2017 – Dec 2018

- Conducted Cardiopulmonary Resuscitation & Automated External Defibrillators courses to students and community members

NATIONAL YOUTH ENVIROLYMPICS CHALLENGE

Singapore

Logistics Committee Member

March 2016 – August 2016

- Organised an environmental forum with Minister of Environment and Water Resources as the guest of honour
- Organised collections for electronic wastes from neighbourhood to prepare for an En-mazing race with participants from various schools in Singapore

I ART SG

Singapore

Publicity Committee Member

November 2015 – November 2016

- Publicised blind artists' art exhibitions in Singapore, Hong Kong and Malaysia

SAGE COUNSELLING CENTRE

Singapore

Head of Helpdesk

November 2015 – November 2015

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- Took charge of answering clients who are caregivers for the elderly

Leadership Experience

YOUTH HEALTH AMBASSADOR, NATIONAL JUNIOR COLLEGE

Singapore

Head of Committee

Mar 2017 – Mar 2018

- Decorated the school library with updated information on mental health and motivational quotes
- Organised events to distribute de-stress balls to students taking examinations

SINGAPORE INTERNATIONAL SCIENCE CHALLENGE

Singapore

Head of Poster Challenge

June 2017 – July 2017

- Organised poster exhibition and quizzing for overseas high school students
- Initiated activities that encourage participants to understand more about Singapore culture
- Performed as a String Orchestra member at the opening ceremony

MATHEMATICS SOCIETY, NATIONAL JUNIOR COLLEGE

Singapore

Vice President

July 2016 – July 2017

Member

January 2015 – December 2018

- Conceived and implemented an outreach event that incorporates mathematical questions into Minecraft, a sandbox game, to the new cohort of College members
- Designed questions and acted as an emcee for the Singapore Mathematical Challenge, a mathematical modelling competition organised for all secondary schools across Singapore
- Conducted and coordinated the weekly training sessions in the Society

Music Experience

FITZWILLIAM COLLEGE CHOIR

United Kingdom

First Tenor

October 2019

- Sang at evening services at College Chapel

ASIAN CULTURAL SYMPHONY ORCHESTRA

Singapore

Assistant Sectional Leader, Viola

Jan 2017 – Mar 2017

Violist

June 2016 – September 2019

- Organised and performed at various concerts to promote Asian music through classical instruments

STRING ORCHESTRA, NATIONAL JUNIOR COLLEGE

Singapore

Head of Welfare

July 2016 – July 2017

Quartermaster

July 2015 – July 2016

Assistant Sectional Leader, Viola

July 2016 – July 2018

Violist

May 2016 – December 2018

First Violinist

January 2015 – June 2017

- Organised a group trip to Hong Kong for cultural and musical exchange
- Initiated an instrument loaning system that significantly improved the transparency and efficiency of instrument loaning
- Initiated a room management system to provide a conducive environment to members
- Organised Talent-time, an intra-college event that provided a platform for students to showcase their talent
- Organised various activities and outings to promote bonding between orchestra members
- Trained and guided junior members of the Viola section
- Learned to play the viola in one month when the orchestra is in need of violists

Language Skills

Native proficiency: English, Mandarin

Professional working proficiency: Cantonese