

Timing Liu

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Education

UNIVERSITY OF CAMBRIDGE	United Kingdom
Bachelor of Medicine, Bachelor of Surgery (MB BChir)	2025
Bachelor of Arts	2022
NATIONAL JUNIOR COLLEGE (FULL SCHOLARSHIP)	Singapore
Advanced Level	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 2; peer review: 2 approved]. Wellcome Open Res 2020, 4:116 (<https://doi.org/10.21956/wellcomeopenres.17209.r37691>)

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. (submitted)

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. (submitted)

Selected Awards

Excelet Research Award, Fitzwilliam College, 2020
Summer Research Grant, British Genetics Society, 2020
Winner, Massachusetts Institute of Technology COVID-19 Challenge, 2020
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 Experience

MEDTECH FOUNDATION United Kingdom
National Programme Director August 2020 – Present

- Worked with local spoke leaders to develop training programmes in medical technologies for professionals, undergraduate and postgraduate students
- Worked with national committee members to build a resource platform and community for MedTech Foundation members and everyone interested in medical technology

WELLCOME SANGER INSTITUTE United Kingdom
Computational Biologist June 2020 – Present

- Worked on association testing between sequencing and metabolic data in a highly consanguineous population with full funding from the British Genetics Society

CLINICIANWIKI.COM United Kingdom
Founder, Full Stack Web Developer May 2020 – Present

- Led a team to build a non-profit website (<https://ClinicianWiki.com>) as a platform to make medical knowledge-sharing more collaborative, open and accurate
- Built website with customized mediawiki, Azure DevOps and clouding resources
- Developed and executed business, marketing, and human resources strategies

CAMBRIDGE CLINICAL TRIAL UNIT United Kingdom
Full Stack Mobile Application Developer Mar 2020 – Present

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- Developed Xamarin. Form mobile applications for clinical trials on COVID-19

NATIONAL UNIVERSITY OF SINGAPORE

Singapore

Computational Biologist and Genetic Diagnostic Developer

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

ARETE MEDTECH

United Kingdom

Software Engineer

June 2020 – Present

- Worked with UX/UI designer and hardware engineers to design an app for COPD and Asthma monitoring with Xamarin and Flutter
- Return offer for continuing development with a stronger focus on data analysis from December 2020 onwards

Selected Extracurricular Courses

HARVARD UNIVERSITY

Data Analysis for Genomics

JOHNS HOPKINS UNIVERSITY

Genomic Data Science

UNIVERSITY OF CALIFORNIA SAN DIEGO

Bioinformatics

UNIVERSITY OF CAMBRIDGE

Introduction to Machine Learning

Image Processing with MATLAB

Image Analysis with Fiji

Introduction to Metagenomics

Introduction to Biological Networks

Snakemake

Data Science in Python

JMP Software Tools

Open Targets

Ensembl REST API workshop

Introduction to the Ensembl Genome Browser

Molecular Biology

Mastering Software Development in R

Web Applications for Everybody

Problem Solving with Programming Language Ruby

Machine Learning

Writing in the Science

EMBL EBI

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

JOHNS HOPKINS UNIVERSITY

UNIVERSITY OF MICHIGAN

SINGAPORE MANAGEMENT UNIVERSITY

STANFORD UNIVERSITY

Programming Skills

Advanced: R, Python, Bash

Intermediate: Ruby, C#, PHP, JavaScript, SQL, machine learning, Xamarin, Flutter, MATLAB, Azure, XAML, HTML, CSS,

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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

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)

Other MedTech/Programming Experience

COVMD.ORG

United Kingdom

Co-Founder and Front-End Developer

April 2020 – June 2020

- Led a team to build a non-profit multilingual website (<https://covmd.org>) as a platform for doctors to provide COVID-19 educational resources and mentorship to doctors in other countries
- Built website on WordPress with various libraries and google analytics tools
- Developed and executed business, marketing, and human resources strategies
- Transitioned project to <https://ClinicianWiki.com>

STOP THE SPREAD

United Kingdom

Full Stack Web Developer

Mar 2020 – May 2020

- 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

October 2019 – Apr 2020

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

Clinical Experience

ADDENBROOKE'S HOSPITAL

United Kingdom

Medical Student

September 2020

- Took history from patients remotely as a part of Preparing for Patients course

NUFFIELD MEDICAL CENTRE

United Kingdom

Medical Student

November 2019 – February 2020

- Took history from patients in the clinic and conducted home visits as a part of Preparing for Patients course

LIANYUNGANG TRADITIONAL CHINESE MEDICINE HOSPITAL

China

Attachment Student in Cardiology

December 2016 – January 2017

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- 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

- 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

Other Extracurricular Courses

PENNSYLVANIA STATE UNIVERSITY

Epidemics - the Dynamics of Infectious Diseases

WESLEYAN UNIVERSITY

Social Psychology

UNIVERSITY OF PENNSYLVANIA

Entrepreneurship

Language Skills

Native proficiency: English, Mandarin

Professional working proficiency: Cantonese

References

Referees' contact details will be provided upon request.