

# TIAN XIAO

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## EDUCATION

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**National University of Singapore (NUS)**

August 2020 - Present

**Bachelor of Science & Bachelor of Computing**

- Double degree in Applied Mathematics and Computer Science
- Science & Technology Undergraduate Merit Scholarship
- Expected date of graduation: December 2024
- GPA: 4.93/5.00 (Applied Mathematics); 4.90/5.00 (Computer Science)

**Awards and Honours**

- Top student for several courses (ibnlt.<sup>1</sup> Machine Learning, Discrete Structures)
- Dean's List for several semesters

**Relevant Courses Taken**

Artificial Intelligence ◊ Calculus ◊ Combinatorics and Graphs ◊ Computer Organisation ◊ Data Structures and Algorithms ◊ Design and Analysis of Algorithms ◊ Differential Equations ◊ Discrete Structures ◊ Fourier Analysis and Approximation ◊ Game Theory ◊ Information Theory ◊ Linear Algebra ◊ Linear Programming ◊ Machine Learning ◊ Mathematical Analysis ◊ Mathematical Logic ◊ Mathematical Modelling ◊ Non-Linear Programming ◊ Numerical Analysis ◊ Operating Systems ◊ Probability ◊ Programming methodology ◊ Regression Analysis ◊ Research Methodology ◊ Set Theory ◊ Software Engineering ◊ Uncertainty Modelling

## WORK AND INTERNSHIP EXPERIENCES

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**Researcher**

May 2023 - Present

*National University of Singapore*

*Singapore*

- Conducted research on multi-agent planning, learning and coordination under the supervision of Associate Professor Low Kian Hsiang, Bryan.

**Teaching Assistant**

August 2021 - Present

*National University of Singapore*

*Singapore*

- Assisted professors in preparing and facilitating teaching of modules CS2030/S Programming Methodology II, CS2040/S Data Structures and Algorithms and CS3244 Machine Learning, involving a total of more than 1500 students.
- Developed class materials, conducted weekly tutorial and laboratory sessions for students to reinforce conceptual knowledge and gain hands-on experience on programming and machine learning, and marked and gave feedback on their examinations and assignments.
- Obtained consistently higher teaching rating than faculty average (min. 4.2/5.0; max. 4.8/5.0).

**Software Developer**

May 2022 - August 2022

*Singapore Telecommunication Limited (Singtel)*

*Singapore*

- Acquired core skills and technologies in cross-platform mobile application development (ibnlt. setting up dependencies and environment, building API connections and layers, implementing key logic, preparing test cases) with 20k+ lines of codes.

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<sup>1</sup>Shorthand for “including but not limited to”.

- Developed Wi-Fi Coverage Tool and Broadband Protect Service functionalities in My Singtel App from scratch as the core developer. Both features have been released in Version 9.3 of My Singtel App in both App Store (iOS) and Google Play Store (Android).
- Optimised performances and fixed bugs for a few other features in My Singtel App (ibuilt. SIM Registration, Customer Inbox).

### **Education Strategist & Creator**

August 2021 - January 2022

*Learnseeker*

*Singapore*

- Facilitated the operation of LearnSeeker, an AI data visualisation and automatic grading tool for schools.
- Created digital education resources.
- Managed the classification and curation of education resources.

### **Researcher**

March 2018 - February 2019

*Agency for Science, Technology and Research (A\*STAR)*

*Singapore*

- Conducted research on possibilities of using lock-in thermography technique to detect 3-dimensional geometries of an object and evaluated its practicability of being applied to real life scenarios.
- Computed Python machine learning algorithms (regression analysis & machine learning) to determine correlations within large datasets generated using lock-in thermography techniques.
- Collaborated with colleagues to predict general trends beyond pre-engineered prototypes.

## **CO-CURRICULAR ACTIVITIES AND VOLUNTEER EXPERIENCES**

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### **Publicity Director**

March 2021 - June 2022

*NUS Mathematics Society*

*Singapore*

- Managed all publicity matters of NUS Mathematics Society to increase its uptake and improve its impact in order to benefit student community.
- Publicised NUS Mathematics Society in Orientation Camp and Student Life Fair via multiple social media platforms that recruited and retained around 120 members in total.

### **Section Leader**

June 2018 - June 2019

*National Junior College Chinese Orchestra and Guzheng Ensemble*

*Singapore*

- Headed Bowed Strings Section in Chinese Orchestra and facilitated major events as part of the Execution Committee.
- Cooperated with conductors and other sections to achieve perfect coordination across orchestra and obtained a Certification of Distinction at Singapore Youth Festival 2019 Arts Presentation For Chinese Orchestra (Full Orchestra) - Junior College.
- Organised activities and outings to promote camaraderie within whole orchestra involving about 100 members.

### **Academic Coach**

August 2021 - December 2021

*NUS Teach Singapore*

*Singapore*

- Provided academic coaching and mentoring to children and teenagers under Christ Church Secondary School Champions Youth Tuition Programme, as a member of NUS Teach Singapore initiative.

### **Chairperson**

November 2018 - August 2019

*Kebun Baru Community Center Peer Mentorship Programme*

*Singapore*

- Organised and chaired Peer Mentorship Programme to tutor disadvantaged children at Kebun Baru Community Centre.

- Conducted mentoring sessions and facilitated Hope Collective's talent development workshops for 50 children.
- Arranged schedules for 22 members to ensure sufficient manpower.

**Chairperson**

February 2018 - October 2018

*Citi-YMCA Youth for Causes: Project EOS*

*Singapore*

- Initialised and chaired Project EOS to raise funds (around S\$3k) and awareness for underprivileged children in Singapore, collaborating with Singapore Children's Society.
- Contributed a total of 136 hours, including making plans, recruiting volunteers, conducting street sales, liaising with partner organisations, etc.
- Participated in YMCA-NUS Business School Volunteer Service Management Programme, a course facilitated by NUS Business School Alumni Association.

## ADDITIONAL INFORMATION

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<b>Languages</b>	English (Proficient), Mandarin (Native)
<b>IT Skillsets</b>	Programming languages (ibnl. Python, Java, JavaScript, React Native), machine learning and statistics libraries (ibnl. Scikit-Learn, TensorFlow, Keras, PyTorch)
<b>Interests</b>	Basketball, piano, Erhu, fine arts