

TIAN XIAO

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EDUCATION

Ph.D. in Computer Science

Jan 2025 – Dec 2028 (Expected)

National University of Singapore

Singapore

- Supervised by **Prof. Bryan Kian Hsiang Low** and **Dr. Nancy F. Chen**
- GPA: 5.00/5.00
- Funded by **A*STAR Graduate Scholarship (Computing) Scholarship**

Bachelor of Science & Bachelor of Computing

Aug 2020 – Dec 2024

National University of Singapore

Singapore

- Double honours degree in **Applied Mathematics** and **Computer Science**
- Specialisation in Artificial Intelligence, Algorithms, Theory and Computation
- **Turing Programme** candidate
- GPA: 4.95/5.00 (Applied Mathematics); 4.91/5.00 (Computer Science)
- Funded by **Science & Technology Undergraduate Merit Scholarship**

Awards and Honours

- Recipient of National University of Singapore **Outstanding Undergraduate Researcher (OUR)** prize (**Best Undergraduate Researcher (Individual)**)
- **Top student** for *Machine Learning*, *Discrete Structures*, *Programming Methodology* and *Research Methodology* courses
- **Dean's List** awardee for 4 times
- Recipient of School of Computing **Take on the World (SToW)** award

RESEARCH INTERESTS AND PUBLICATIONS

Research Interests

- Data-centric machine learning (e.g., data valuation, data selection, machine unlearning)
- Multi-agent machine learning (e.g., collaborative/federated learning, incentive mechanism)
- Privacy-preserving machine learning (e.g., differentially private machine learning)

Publications

- [1] **Xiao Tian**, Rachael Hwee Ling Sim, Jue Fan, and Bryan Kian Hsiang Low. “[DeRDaVa: Deletion-Robust Data Valuation for Machine Learning](#)”. In: *Proceedings of the 38th AAAI Conference on Artificial Intelligence (AAAI-24)*, Vancouver, Canada, 20-27 Feb 2024. (Acceptance rate: 23.75%).
- [2] Rachael Hwee Ling Sim, Jue Fan, **Xiao Tian**, and Bryan Kian Hsiang Low. “[Deletion-Anticipative Data Selection with a Limited Budget](#)”. In: *Proceedings of the 41st International Conference on Machine Learning (ICML-24)*, Vienna, Austria, 21-27 July 2024. (Acceptance rate: 27.50%).

RESEARCH AND PROFESSIONAL EXPERIENCES

Student Researcher

May 2023 – Sep 2023; May 2024 – Aug 2024

National University of Singapore

Singapore

- Conducted research on **collaborative machine learning** and **privacy-preserving machine learning** under the supervision of Prof. Bryan Kian Hsiang Low.
- Presented Publication [1] in the 38th AAAI Conference on Artificial Intelligence (AAAI-24).

Teaching Assistant

Aug 2021 – Present

National University of Singapore

Singapore

- Conducted weekly tutorial and laboratory sessions; developed course materials (e.g., slides, assignments, examinations); mentored group projects; reviewed and marked codes, assignments and examinations.
- Attained the **Honour List of Student Tutors** for 2 times (AY2021/22 and AY2022/23).
- Taught the following courses (with final teaching ratings obtained from students):

Course	Obtained Rating	Faculty Average Rating
<i>Data Structures and Algorithms</i>	4.6/5.0	4.2/5.0
<i>Machine Learning</i>	4.5/5.0	4.2/5.0
<i>Programming Methodology II</i>	4.8/5.0	4.2/5.0

Software Developer

May 2022 – Aug 2022

Singapore Telecommunication Limited (Singtel)

Singapore

- Acquired core skills in cross-platform mobile application development (including setting up dependencies and environment, building API connections and layers, implementing key logic, testing) with 20k+ lines of code.
- Developed **Wi-Fi Coverage Tool** and **Broadband Protect Service** features 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 iOS and Android.
- Optimised performances and fixed bugs for *SIM Registration* and *Customer Inbox* features in My Singtel App.

Student Researcher

Mar 2018 – Feb 2019

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

Singapore

- Conducted research on applying **machine learning** to **lock-in thermography** to detect the 3-dimensional geometry of partially visible objects and evaluated its practicability of being applied to real-life scenarios.

CO-CURRICULAR AND VOLUNTEER EXPERIENCES

Publicity Director

Mar 2021 – Jun 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 the 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.

Academic Coach

Aug 2021 – Dec 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 the NUS Teach Singapore initiative.

ADDITIONAL INFORMATION

Languages

English (Proficient), Mandarin (Native), Japanese (Basic)

IT Skillsets

Programming languages: Python, Java, MATLAB, JavaScript, Kotlin
Machine learning libraries: Scikit-learn, PyTorch, TensorFlow, Keras