

TIAN XIAO

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snoidetx.github.io

EDUCATION

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| Ph.D. in Computer Science <i>National University of Singapore</i> | Jan 2025 – Dec 2028 (Expected) <i>Singapore</i> |
| <ul style="list-style-type: none">Supervised by Prof. Bryan Kian Hsiang Low and Dr. Nancy F. ChenGPA: 5.00/5.00Funded by A*STAR Graduate Scholarship (Computing) Scholarship | |

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| Bachelor of Science & Bachelor of Computing <i>National University of Singapore</i> | Aug 2020 – Dec 2024 <i>Singapore</i> |
| <ul style="list-style-type: none">Double honours degree in Applied Mathematics and Computer ScienceSpecialisation in Artificial Intelligence, Algorithms, Theory and ComputationTuring Programme candidateGPA: 4.95/5.00 (Applied Mathematics); 4.91/5.00 (Computer Science)Funded by NUS 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 Jul 2024. (Acceptance rate: 27.50%).
- [3] **Xiao Tian**, Jue Fan, Rachael Hwee Ling Sim, and Bryan Kian Hsiang Low. “[INO-SGD: Addressing Utility Imbalance under Individualized Differential Privacy](#)”. In: *The 14th International Conference on Learning Representations (ICLR-26)*, Rio de Janeiro, Brazil, 23-27 Apr 2026. (Acceptance rate: 28.18%).

RESEARCH AND PROFESSIONAL EXPERIENCES

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| Student Researcher <i>National University of Singapore</i> | May 2023 – Sep 2023; May 2024 – Aug 2024 <i>Singapore</i> |
| <ul style="list-style-type: none">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