TIAN XIAO

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snoidetx.github.io

EDUCATION

Bachelor of Science & Bachelor of Computing **Aug 2020 − Dec 2024 (Expected)**
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: 4.94/5.00 (Applied Mathematics); 4.90/5.00 (Computer Science)

Awards and Honours

- Holder of **Science & Technology Undergraduate Merit Scholarship**
- 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, active learning, 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
Data Structures and Algorithms	**4.6**/5.0	4.2/5.0
Machine Learning	**4.5**/5.0	4.2/5.0
Programming Methodology II	**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   **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 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   **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 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, TensorFlow, Keras, PyTorch