

Anvith Thudi

anvith.com

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Education

University of Toronto

Ph.D. in Computer Science

Toronto, ON, Canada

Sep. 2022 - ongoing

- Advisors: Nicolas Papernot and Chris Maddison

University of Toronto

B.Sc in Mathematics, Spent Fall 2020 in Engineering Science

Toronto, ON, Canada

Sep. 2020 - May 2022

- GPA: 3.92/4.0

Simon Fraser University

Concurrent Studies Student (attended while in highschool)

Burnaby, BC, Canada

Sep. 2017 - May 2020

- GPA: 4.09/4.33

Awards and Honours

2023 Canada Graduate Scholarship-Doctoral: NSERC

- *declined due to Vanier*

2023 Vanier Canada Graduate Scholarship: NSERC

- *Rank 1/173 of national round nominees (Ph.D. students in the Natural Sciences or Engineering)*

Doctoral Entrance Scholarship: UofT Department of Computer Science

Doctoral Recruitment Award: UofT Faculty of Arts and Science

Galois Award: University College UofT

Dean's List Scholar: UofT

Dean's Honours List: UofT

2020 Loran Scholarship National Finalist: Loran Scholar's Foundation

- *Top 88 highschool students in Canada*

Publications

Journal Proceedings.....

"From Differential Privacy to Bounds on Membership Inference: Less can be More": Anvith Thudi, Ilia Shumailov, Franziska Boenisch, Nicolas Papernot. *Transactions on Machine Learning Research*

"Selective Classification via Neural Training Dynamics": Stephan Rabanser, Anvith Thudi, Kimia Hamidieh, Adam Dziedzic, Nicolas Papernot. *Transactions on Machine Learning Research*

Conference Proceedings.....

"Leveraging Per-Instance Privacy for Machine Unlearning": Nazanin Mohammadi Sepahvand, Anvith Thudi, Berivan Isik, Ashmita Bhattacharyya, Nicolas Papernot, Eleni Triantafyllou, Daniel M. Roy, Gintare Karolina Dziugaite. *Proceedings of the 42nd International Conference on Machine Learning*. Oral at TPDP workshop 2025

"Fast Exact Unlearning for In-context Learning Data for LLMs": Andrei Muresanu, Anvith Thudi, Michael R. Zhang, Nicolas Papernot. *Proceedings of the 42nd International Conference on Machine Learning*

"MixMin: Finding Data Mixtures via Convex Minimization": Anvith Thudi, Evianne Rovers, Yangjun Ruan, Tristan Thrush, Chris J. Maddison. *Proceedings of the 42nd International Conference on Machine Learning*

"MixMax: Distributional Robustness in Function Space via Optimal Data Mixtures": Anvith Thudi, Chris J. Maddison. *Proceedings of the 13th International Conference on Learning Representations*

"Gradients Look Alike: Sensitivity is Often Overestimated in DP-SGD": Anvith Thudi, Hengrui Jia, Casey Meehan, Ilia Shumailov, Nicolas Papernot. *Proceedings of the 33rd USENIX Security Symposium, 2024*

"Better Sparsifiers for Directed Eulerian Graphs": Sushant Sachdeva, Anvith Thudi, Yibin Zhao. *Proceedings of the 51st EATCS International Colloquium on Automata, Languages and Programming*

"Training Private Models That Know What They Don't Know": Stephan Rabanser, Anvith Thudi, Abhradeep Thakurta, Krishnamurthy Dvijotham, Nicolas Papernot. *Proceedings of the 37th Conference on Neural Information Processing Systems*

"Proof-of-Learning is Currently More Broken Than You Think": Congyu Fang, Hengrui Jia, Anvith Thudi, Mohammad Yaghini, Christopher A. Choquette-Choo, Natalie Dullerud, Varun Chandrasekaran, Nicolas Papernot. *Proceedings of the 8th IEEE European Symposium on Security and Privacy, 2023*

"On the Necessity of Auditable Algorithmic Definitions for Machine Unlearning": Anvith Thudi, Hengrui Jia, Ilia Shumailov, Nicolas Papernot. *Proceedings of the 31st USENIX Security Symposium, 2022*

"Unrolling SGD: Understanding Factors Influencing Machine Unlearning": Anvith Thudi, Gabriel Deza, Varun Chandrasekaran, Nicolas Papernot. *Proceedings of the 7th IEEE European Symposium on Security and Privacy, 2022*

"Proof of Learning: Definitions and Practice": Hengrui Jia, Mohammad Yaghini, Christopher A. Choquette-Choo, Natalie Dullerud, Anvith Thudi, Varun Chandrasekaran, Nicolas Papernot. *Proceedings of the 42nd IEEE Symposium on Security and Privacy, 2021*

Preprints

"Sampling Arbitrary Discrete Distributions for RV Commitment Schemes Using the Trimmed-Tree Knuth-Yao Algorithm": Zoë Ruha Bell, Anvith Thudi

"k-Nearest Neighbour Adaptive Sampling (kNN-AS), a Simple Tool to Efficiently Explore Conformational Space": Evianne M. Rovers, Anvith Thudi, Chris Maddison, Matthieu Schapira

"SoK: Machine Learning Governance": Varun Chandrasekaran, Hengrui Jia, Anvith Thudi, Adelin Travers, Mohammad Yaghini, Nicolas Papernot

Experience

Microsoft Research Cambridge
Ph.D. Research Intern

Cambridge, UK
May. 2023 - July 2023

Talks

"Unlearning Can Be Easy": University of Wisconsin-Madison Security and Privacy Seminar

"Datapoints that are Easy to Unlearn": Google DeepMind

"Gradients Look Alike: Sensitivity is Often Overestimated in DP-SGD": Usenix Security 24'

"Datapoints that are Easy to Unlearn": Harvard Efficient ML Seminar

"The Unlearning Problem(s)": CS 562 at University of Illinois Urbana-Champaign

"The Unlearning Problem(s)": The Alan Turing Institute

"The Unlearning Problem(s)": Cambridge

"The Unlearning Problem(s)": Google

"The Unlearning Problem(s)": EPFL

"The Unlearning Problem(s)": ETH Zurich

"On the Necessity of Auditable Algorithmic Definitions for Machine Unlearning": Usenix Security 22'

"Unrolling SGD: Understanding Factors Influencing Machine Unlearning": Euro S&P 22'

"The Unlearning Problem(s)": Meta

Service

Reviewer: Euro S&P (2022), ICLR (2025), ICML (2025)

Subreviewer: IEEE S&P (2024), CCS (2023), Neurips (2022)

Panel: Neurips 2023 Unlearning Competition

Organizer: ML Lunch Talks at Vector