

LAZIZ ABDULLAEV

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National University of Singapore, Singapore

EDUCATION

- National University of Singapore** Aug 2023 - Present
Ph.D., *Mathematics, Machine Learning*
Advisor: Tan M. Nguyen ([homepage](#))
- National University of Uzbekistan** Sep 2019 - Jun 2023
Bachelor's degree, *Mathematics*
Grade: 97% (diploma with honours)

WORK EXPERIENCE

- National University of Singapore**, Graduate Researcher, Singapore Sep 2023 - Present
Research area: Principled frameworks for gating/adaptation/alignment/steering for LLMs
- Rakuten**, Research Scientist Intern, Singapore Jan 2025 - Jun 2025
Research area: Efficient adaptation methods of Transformer-based pre-trained LLMs and SSMs
- DSR Corporation**, Software Engineer, Tashkent Feb 2022 - Aug 2023
Main tasks accomplished: Optimized WebSocket connections for cloud-based access control system, owned notifications service of a microservices architecture

PUBLICATIONS & PREPRINTS

8. **L. Abdullaev***, N. Wong*, R. Lee*, Sh. Jiang, K. Nguyen, T. Nguyen. *Concept Heterogeneity-aware Representation Steering*. [arXiv 2026](#)
7. **L. Abdullaev**, U. Rozikov. *Gibbs Measures in Machine Learning*. [World Scientific 2025](#)
6. M. Nguyen-Nhat*, R. Teo*, **L. Abdullaev**, M. Mok, T. Hoang, T. Nguyen. *Modeling Expert Interactions in Sparse Mixture of Experts via Graph Structures*. [Math4AI Workshop @ AAI 2026](#)
5. **L. Abdullaev***, M. Tkachenko, T. Nguyen. *Revisiting Transformers with Insights from Image Filtering and Boosting*. [arXiv 2025](#)
4. R. Teo*, **L. Abdullaev***, T. Nguyen. *The Blessing and Curse of Dimensionality in Safety Alignment*. [COLM 2025](#)
3. **L. Abdullaev***, T. Nguyen. *Transformer Meets Twicing: Harnessing Unattended Residual Information*. [ICLR 2025](#)
2. S. Nielsen*, R. Teo*, **L. Abdullaev**, and T. Nguyen. *Tight Clusters Make Specialized Experts*. [ICLR 2025](#)
1. S. Nielsen*, **L. Abdullaev***, R. Teo, and T. Nguyen. *Elliptical attention*. [NeurIPS 2024](#)

*Co-first author

AWARDS & HONORS

6. Selected Participant, *Princeton ML Theory Summer School*, Princeton University, 2025
5. NUS Research Scholarship, *National University of Singapore (NUS)*, 2023
4. “Mirzo Ulugbek” Excellence Scholarship, *The Ministry of Higher Education of Uzbekistan*, 2022
3. Second Prize, *North Countries Universities Mathematical Competition (NCUMC)*, 2022
2. First Prize, *The 5th Open Mathematical Olympiad for University Students*, IUHD, 2022
1. Third Prize, *International Mathematics Competition (IMC)*, 2021 (for university students)

TALKS

4. “On the Universality of Neural Networks and Probabilistic Approach to Language Modeling”, *Romanovsky Institute of Mathematics of Uzbekistan*, online, April 2026
3. “Concept Heterogeneity-aware Representation Steering”, *15th Symposium of SIAM Student Chapter at NUS*, Singapore, March 2026
2. “Elliptical Attention”, *Princeton ML Theory Summer School*, Princeton, NJ, August 2025
1. “Bregman Iterative Algorithms and Their Applications in Compressed Sensing”, *the NUS Machine Learning and Scientific Computing Seminar*, Singapore, November 2023

ACADEMIC SERVICE

- Reviewer: UniReps @ NeurIPS 2025, ICLR 2026, ICML 2026

LANGUAGE PROFICIENCY

Uzbek	Native
English	Fluent (C1 IELTS 7.5)