Timur Garipov

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Education

Massachusetts Institute of Technology — Cambridge, MA, USA
PhD student, Computer Science (MIT EECS), **GPA**: 5.0/5.0 — **2019 – Present**
Research advisor: Tommi Jaakkola
Minor: Robotic Manipulation, Underactuated Robotics

Lomonosov Moscow State University — Moscow, Russia
MS (hons.) in Applied Mathematics and Computer Science, **GPA**: 5.0/5.0 — **2017 – 2019**

Lomonosov Moscow State University — Moscow, Russia
BS (hons.) in Applied Mathematics and Computer Science, **GPA**: 5.0/5.0 — **2013 – 2017**
Undergraduate student researcher in the Bayesian Methods Research Group advised by Dmitry Vetrov

Experience

Cruise LLC — Sunnyvale, CA, USA
PhD Intern, AI Research — **June 2023 – September 2023**
- Designed algorithms for long-tail recognition and uncertainty estimation with Vision Transformers.
- Mentor: David Hayden

Google LLC — Cambridge, MA, USA (remote)
Research intern — **June 2021 – September 2021**
- Research in empirical understanding of memorization and function-space training dynamics in deep learning.
- Mentor: Chiyuan Zhang

Google LLC — London, UK
Intern, Software Engineering — **June 2023 – September 2023**
- Designed and prototyped a machine learning model for SKU price estimation.

Google LLC — Zurich, Switzerland
Intern, Software Engineering — **July 2018 – September 2018**
- Optimized a map-reduce data clustering pipeline.

Samsung AI Center, Moscow — Moscow, Russia
Engineer — **April 2018 – June 2018, October 2018 – May 2019**
- Research in Deep Learning and Bayesian Machine Learning;
- Published research papers at leading Machine Learning venues: NeurIPS, UAI.

Publications

(**equal contribution*)

Compositional Sculpting of Iterative Generative Processes — NeurIPS 2023
Timur Garipov, Sebastiaan De Peuter, Ge Yang, Vikas Garg, Samuel Kaski, Tommi Jaakkola — Video PDF

Adversarial Support Alignment — Spotlight presentation | ICLR 2022
Shangyuan Tong*, **Timur Garipov***, Yang Zhang, Shiyu Chang, Tommi Jaakkola — Video PDF

The Benefits of Pairwise Discriminators for Adversarial Training — Arxiv pre-print 2020
Shangyuan Tong*, **Timur Garipov***, Tommi Jaakkola — PDF

A Simple Baseline for Bayesian Uncertainty in Deep Learning — NeurIPS 2019
Wesley Maddox*, Pavel Izmailov*, **Timur Garipov***, Dmitry Vetrov, Andrew Gordon Wilson — Video PDF

Subspace Inference for Bayesian Deep Learning — UAI 2019
Wesley Maddox, Pavel Izmailov, Polina Kirichenko, **Timur Garipov**, Dmitry Vetrov, Andrew Gordon Wilson — PDF

Loss Surfaces, Mode Connectivity, and Fast Ensembling of DNNs — Spotlight presentation | NeurIPS 2018
Timur Garipov*, Pavel Izmailov*, Dmitrii Podoprikhin*, Dmitry Vetrov, Andrew Gordon Wilson — Video PDF

Averaging Weights Leads to Wider Optima and Better Generalization — Oral presentation | UAI 2018
Pavel Izmailov*, Dmitrii Podoprikhin*, **Timur Garipov***, Dmitry Vetrov, Andrew Gordon Wilson — Video PDF

Ultimate tensorization: compressing convolutional and FC layers alike — NIPS Workshop 2016
Timur Garipov, Dmitry Podoprikhin, Alexander Novikov, Dmitry Vetrov — PDF

Service

Technical reviewer for ICML 2018 TADGM Workshop, NeurIPS 2018, ICLR 2019, ICML 2019, UAI 2019, UAI 2020, NeurIPS 2020 (top 10% reviewer award), NeurIPS 2021, AISTATS 2022, NeurIPS 2022, JMLR

Teaching

Teaching assistant, MIT EECS **2020**
6.867: Machine Learning (graduate-level), 250+ students Cambridge, MA, USA

Teaching assistant, CMC MSU and Yandex School of Data Analysis **2017, 2018**
Bayesian Machine Learning & Probabilistic Graphical Models, 40+ students Moscow, Russia

Lecturer, AESC MSU and competitive programming summer schools **2013 – 2015**
Advanced Algorithms and Data Structures (high school elective course), 20-30 students Moscow, Russia

Awards

MIT EECS Graduate Alumni Fellowship **2019**
Russian State Scholarship for Academic Achievements **2014 – 2017**
Diploma of winner (16th place) at Russian Olympiad in Informatics **2013**
Diploma of awardee at Russian Olympiad in Informatics **2011, 2012**

Technical Skills

Languages: Python, C++, C, SQL
Machine Learning: PyTorch, JAX, SciPy stack, Tensorflow
Technologies: Linux, GitHub, Google Cloud Platform, Docker, Drake, LaTeX

Relevant Projects

Class project, MIT 6.832 (now 6.8210): Underactuated Robotics, **Instructor**: Russ Tedrake Spring 2022
Contact-Aware Lyapunov Controller Design via Alternating Optimization | joint work with Richard Li Video Report

Class project, MIT 6.843 (now 6.4212): Robotic Manipulation, **Instructor**: Russ Tedrake Fall 2021
Robotic Arm Weightlifting via Trajectory Optimization Video Report

Class project, MIT 6.850 (now 6.5320): Geometric Computing, **Instructor**: Piotr Indyk Spring 2020
Implementation of Algorithms for Construction of Voronoi Diagram Video Report