

Ludmila Glinskih

PhD Candidate at Boston University
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Education

- Boston University 2019 – present
PhD (in progress), *Computer Science*
M.Sc., *Computer Science*
Advisors: Dr. Sofya Raskhodnikova and Dr. Mark Bun
GPA: 3.94
- St. Petersburg Academic University of Russian Academy of Sciences 2015 – 2017
M.Sc., *Theoretical Computer Science*
Thesis: “Satisfiable Tseitin formulas are hard for nondeterministic read-once branching programs”
- Peter the Great Saint-Petersburg Polytechnic University 2009 – 2014
B.Sc., *Applied Mathematics and Computer Science*

Publications

- MCSP is Hard for Read-Once Nondeterministic Branching Programs*
Ludmila Glinskih and Artur Riazanov
LATIN 2022
- The Complexity of Verifying Boolean Programs as Differentially Private*
Mark Bun, Marco Gaboardi, Ludmila Glinskih
CSF 2022
- On Tseitin Formulas, Read-Once Branching Programs and Treewidth*
Ludmila Glinskih, Dmitry Itsykson
CSR 2019, **Best Paper Award winner**, invited to special issue of Theory of Computing Systems
- Satisfiable Tseitin formulas are hard for nondeterministic read-once branching programs*
Ludmila Glinskih and Dmitry Itsykson
MFCS 2017

Scholarships and Awards

- Early-Career AMS-NSF-Simons-ICM Travel Grant** July 2022
To participate in the International Congress of Mathematicians
- Dean’s Fellowship** Fall 2019
Awarded to PhD students at Boston University
- CSR 2019 Best Paper Award** July 2019
Paper: *On Tseitin Formulas, Read-Once Branching Programs and Treewidth*
Ludmila Glinskih, Dmitry Itsykson
- TCS Women Travel Scholarship** June 2018
To participate in the ACM STOC 2018
- Yandex Research Fellowship** Fall 2015 – Spring 2017
Awarded to Master’s students at St. Petersburg Academic University RAS

Teaching

Teaching Fellow CS 530: <i>Graduate Advanced Algorithms</i> Taught by Steven Homer at Boston University	Fall 2022
Grader CS537: <i>Graduate Randomness in Computing</i> Taught by Sofya Raskhodnikova at Boston University	Fall 2021
Teaching Fellow CS 535: <i>Graduate Complexity Theory</i> Taught by Mark Bun at Boston University	Fall 2020
Teaching Assistant <i>Complexity Theory and Randomized Algorithms</i> Taught by Ivan Bliznets at St. Petersburg Academic University RAS	Spring 2018

Academic Service

Reviewer for CSR 2019, STOC 2020, ICALP 2022	
Organizer of a reading group on a Minimum Circuit Size Problem (MCSP) at Boston University	Jun 2020 – Aug 2021
Author of a Telegram channel (in Russian) with advice for junior researchers	2018 – present

Talks

<i>MCSP is Hard for Read-Once Nondeterministic Branching Programs</i> LATIN 2022, Guanajuato, Mexico	Nov 08, 2022
<i>The Complexity of Verifying Boolean Programs as Differentially Private</i> CSF 2022, Haifa, Israel	Aug 11, 2022
<i>The Complexity of Verifying Boolean Programs as Differentially Private</i> Theory Seminar, Boston University, Virtual	Feb 28, 2022
<i>The Complexity of Verifying Boolean Programs as Differentially Private</i> Seminar of the Privacy Tools Project, Harvard University, Virtual	Nov 22, 2021
<i>The Complexity of Verifying Boolean Programs as Differentially Private</i> CRA-WP Grad Cohort for Women, Virtual	Apr 24, 2021
<i>Circuit Lower Bounds from NP-Hardness of MCSP Under Turing Reductions</i> MCSP reading group, Boston University, Boston, USA	Feb 22, 2021
<i>Relations and Equivalences Between Circuit Lower Bounds and Karp-Lipton Theorems</i> MCSP reading group, Boston University, Boston, USA	Nov 2, 2020

<i>Lower bounds for MCSP for restricted circuit models</i> MCSP reading group, Boston University, Boston, USA	Aug 6, 2020
<i>A survey on the Minimum Circuit Size Problem</i> MCSP reading group, Boston University, Boston, USA	Jun 12, 2020
<i>Lower bounds for Read-Once Branching Programs for Tseitin formulas</i> Theory Seminar, Boston University, Boston, USA	Oct 28, 2019
<i>On branching programs, Tseitin formulas and tree-width</i> 24th Estonian Winter School in Computer Science, Palmse, Estonia	Mar 7, 2019
<i>Lower bounds for Branching Program and Formula for Orthogonal Vectors</i> Seminar of the Laboratory of Algorithmic Methods, PDMI RAS, St. Petersburg, Russia	Nov 16, 2018
<i>Lower bound for read-once nondeterministic branching program for satisfiable Tseitin formula using tree-width</i> Workshop of Summer School on Algorithms and Lower Bounds, Satellite workshop of ICALP, Prague, Czech Republic	Jul 9, 2018
<i>On branching programs, Tseitin formulas and tree-width</i> Poster at ACM STOC, Los Angeles, USA	Jun 26, 2018
<i>Lower Bounds for Nondeterministic Semantic Read-Once Branching Programs</i> Complexity Seminar, PDMI RAS, St. Petersburg Russia	May 4, 2018
<i>Satisfiable Tseitin formulas are hard for nondeterministic read-once branching programs</i> Joint Estonian–Latvian Theory Days, Tartu, Estonia	Nov 24, 2017
<i>Satisfiable Tseitin formulas are hard for nondeterministic read-once branching programs</i> MFCS, Aalborg, Denmark	Aug 25, 2017
<i>Techniques of proving lower bounds on Query Complexity</i> Seminar on Sublinear Algorithms, Computer Science Club, St. Petersburg, Russia	Oct 14, 2016

Other Activities

Maintainer of FFmpeg, responsible for API test <i><u>FFmpeg</u> is the leading open source multimedia framework</i>	2015 – present
Member of the University Women's Soccer Team at SPbPU	2009 – 2014

Additional Education

Hilbert–Bernays Summer School on Logic and Computation, Tübingen, Germany <i>Expenses covered by a scholarship from the organizers</i>	Jul 21 – Jul 27, 2019
Caleidoscope: Complexity as a Kaleidoscope, Paris, France	Jun 17 – Jun 21, 2019
24th Estonian Winter School in Computer Science, Palmse, Estonia <i>Expenses covered by a scholarship from the organizers</i>	Mar 3 – Mar 8, 2019
PDMI RAS Computer Science Club (https://compsciclub.ru/en/) St. Petersburg Russia	Sep 2013 – Feb 2019
Summer School on Algorithms and Lower Bounds, Prague, Czech Republic <i>Expenses covered by a scholarship from the organizers</i>	Jul 6 – Jul 9, 2018
Recent Advances in Algorithms, St. Petersburg, Russia	May 22 – May 26, 2018
Recent Advances in Parameterized Complexity, Tel Aviv, Israel	Dec 3 – Dec 7, 2017
Swedish Summer School in Computer Science (S3CS), Stockholm, Sweden <i>Expenses covered by a scholarship from the organizers</i>	Jul 16 – Jul 22, 2017
A Special Semester on Computational and Proof Complexity, St. Petersburg, Russia	Apr – Jun, 2016

Employment

Google Sunnyvale Software Engineering Intern (Anonymization Team) Conducted research and ran analysis of efficiency and accuracy of the various algorithms for sensitivity bounding of differentially private queries in ZetaSQL (https://github.com/google/zetasql). Used C++.	May 2022 – Aug 2022
Google San Francisco Software Engineering Intern (<i>Cobalt</i>) Added a Golang library for optimal computations of privacy encoding parameters in Cobalt – a framework for differentially private telemetry collection (https://fuchsia.googlesource.com/cobalt). Implemented a Golang library for fast computations of privacy loss distribution.	May 2021 – Aug 2021
Google Zurich Site Reliability Engineering Intern (<i>Serving Backend SRE Team</i>)	Apr 2019 – Jul 2019

Added support of integration testing and multiple integration tests for an internal load testing tool used for testing Google Search. Used internal configuration languages and Python.

St. Petersburg Department of V.A. Steklov Institute of Mathematics RAS

Oct 2017 – Sep 2019

Graduate Researcher (*Laboratory of Mathematical Logic*)

Conducted research in circuit and proof complexity.

Google London

Jun 2017 – Sep 2017

Site Reliability Engineering Intern (*SRE Traffic Team*)

Added dynamical status updates to the internal code review tool from the tool that automatically rebuilds configuration files. Used Golang.

Google Zurich

Jul 2016 – Oct 2016

Site Reliability Engineering Intern (*YouTube Core SRE Team*)

Added support of refined estimations of load on YouTube backends to improve resistance of YouTube internal services from overloading by requests from internal users. Used Python, C++, and JavaScript.

FFmpeg

May 2015 – Aug 2015

Software Engineering Intern

Built a suite of tests in C for [FFmpeg](#) API.

Yandex

Oct 2012 – May 2015

Quality Assurance Engineer (*Yandex.Maps Team*)

Took a leading role in quality assurance of a cartographical project similar to OpenStreetMap and ArcGIC (<https://n.maps.yandex.ru>)