

Yury M. Lifshits

CONTACT INFORMATION	Laboratory of Mathematical Logic Steklov Institute of Mathematics Fontanka, 27, St.Petersburg 191023, Russia	<i>Voice:</i> +7 904 3310563 <i>Fax:</i> +7 812 3105377 <i>E-mail:</i> yura@logic.pdmi.ras.ru <i>WWW:</i> http://logic.pdmi.ras.ru/~yura
OBJECTIVE	To find a postdoc / junior researcher / assistant professor position in the world top universities or industrial research labs from September 2008 .	
BIOGRAPHICAL DATA	Citizenship: Russia Date and place of birth: 20th January 1984, Leningrad, USSR	
RESEARCH INTERESTS	<ul style="list-style-type: none"> • Web algorithms: nearest neighbor search, on-line advertisement, recommendation systems • String algorithms: processing compressed and automatically generated texts • More interests: program obfuscation, connectivity in graphs, finite automata and regular languages, combinatorics on words, algorithms for solving parity and mean payoff games 	
EDUCATION	Steklov Institute of Mathematics , St.Petersburg, Russia Ph.D. in theoretical computer science, October 2005 — May 2007 <ul style="list-style-type: none"> • Thesis Topic: "Algorithms and Complexity Analysis for Processing Compressed Texts" • Advisor: Yuri Matiyasevich St.Petersburg State University , St.Petersburg, Russia M.Sc., Mathematics (Algebra), 2000-2005. (GPA: 5.0/5.0) <ul style="list-style-type: none"> • M.Sc. Thesis: "On the complexity of the embedding of compressed texts". English translation 	
EMPLOYMENT	California Institute of Technology , Center for the Mathematics of Information Postdoc, September 2007 — September 2008	
PUBLICATIONS	Journals: <ol style="list-style-type: none"> 1. Yury Lifshits and Dmitri Pavlov, Fast exponential deterministic algorithm for mean payoff games. Zapiski Nauchnyh Seminarov POMI, Vol. 340, pp. 61-75, 2006. To be republished by Springer-Verlag in Journal of Mathematical Sciences. 2. Yu.M. Lifshits, Partitioning a k-connected graph, Discrete Mathematics and Applications, Volume 15, No. 4, pp. 365–377, VSP, 2005. 3. Yuri Lifshits, A lower bound on the size of epsilon-free NFA corresponding to a regular expression. Information Processing Letters, vol 85/6, pp. 293-299, Elsevier, 2003. Reviewed conferences: <ol style="list-style-type: none"> 1. Benjamin Hoffmann, Yury Lifshits and Dirk Nowotka, Maximal intersection queries in randomized graph models. Accepted to CSR'07, LNCS 4649, Springer-Verlag, 2007. 2. Yury Lifshits and Dirk Nowotka, Estimation of the click volume by large scale regression analysis. Accepted to CSR'07, LNCS 4649, Springer-Verlag, 2007. 	

3. Danièle Beauquier, Marie Duflot and Yury Lifshits, [Decidability of parameterized probabilistic information flow](#). Accepted to CSR'07, LNCS 4649, Springer-Verlag, 2007.
4. Yury Lifshits, [Processing compressed texts: a tractability border](#). Accepted to CPM'07, LNCS 4580, Springer-Verlag, 2007.
5. Juhani Karhumäki, Yury Lifshits, Wojciech Rytter, [Tiling periodicity](#). Accepted to CPM'07, LNCS 4580, Springer-Verlag, 2007.
6. Yury Lifshits and Markus Lohrey, [Querying and embedding compressed texts](#). Proc. of MFCS'06, LNCS 4162, pp. 681-692, Springer-Verlag, 2006.
7. Patrick Cégielski, Irène Guessarian, Yury Lifshits, and Yuri Matiyasevich, [Window subsequence problems for compressed texts](#). Proc. of CSR'06, LNCS 3967, pp. 127-136, Springer-Verlag, 2006.

Miscellaneous:

1. Yury Lifshits, [Guaranteed slowdown, generalized encryption schemes and function sharing](#). Proc. of Institute of System Programming of Russian Academy of Science, Vol. 10, pp. 119-129, 2006.
2. Yury Lifshits, Processing compressed texts. Proc. of XVI Workshop on Synthesis and Complexity of Circuits, pp. 64-68, MSU Press, 2006.

TEACHING
ACTIVITIES

I created and taught the following courses:

- [Spring 2007, Stuttgart University] [A Guide to Web Research](#), minicourse at Stuttgart University
- [Fall 2006, SPbSU ITMO] [Algorithms for Internet](#)
- [Summer 2006, Dubna] [String Algorithms](#), minicourse at summer school "Modern Mathematics"
- [Spring 2006, Tartu University] [Cryptographic Approach to Program Obfuscation](#)
- [Fall 2005, SPbSU] [Modern Problems of Cryptography](#)
- [Fall 2005, SPbSU ITMO] [Modern Problems of Theoretical Computer Science](#) (Yandex Award!)
- [Spring 2005, SPbSU] [Course on Program Obfuscation](#)
- [2004,2005] [Effective Internet Search](#) business tutorial
- [2003-2005, SPbSU] Organizer and leader of popular student seminar [Invitation to Computer Science](#)
- Lecturing in summer mathematical camps for high school students in Saint-Petersburg (2000-2003), Tver (2001), Kirov (2001).

AWARDS

- Three absolute championships at Russian Mathematical Olympiads in 1998-2000.
- Two gold medals at International Mathematical Olympiads (Bukharest'99, Taejong'00)
- President of Russia Prizes in 2000 and 2001.
- St.Petersburg Youth Prize (2002) awarded by St.Petersburg Public Council
- Finalist of Moebius Contest (2005) — russian **Top7 student papers** in all mathematical subjects; Honorable mention (8th-11th place) in 2006.
- Finalist of "New Reality" Internet Award 2005, site <http://cs-seminar.spb.ru>
- Yandex Teaching Award (2006) for my course "Modern Problems of Theoretical Computer Science" — russian **Top8 university courses** in information retrieval and related subjects
- Scholarships:
 - INTAS Young Scientist Fellowship (2007-2008) - **Top100 PhD students** from former Soviet Union in all natural sciences
 - Intel Student Research Scholarship (2005)
 - Scholarship for leadership and creativity from Potanin Foundation (2004-2005) — **Top40 students** out of 20000 in St.Petersburg State University
 - Olympic Scholarship from Potanin Foundation (2000-2005).

RESEARCH VISITS

- Stuttgart University University, February-April 2007. Host: Markus Lohrey
- Paris-12 University, May 2006. Host: Anatol Slissenko
- Turku University, February 2006. Host: Juhani Karhumäki
- Stuttgart University, February 2005. Hosts: Volker Diekert, Markus Lohrey

GRANTS AND PROJECTS

Current projects:

- Consulting for [Yandex LLC](#) (2007)
- Consulting for [NebuAd Inc.](#) (2007)
- INTAS project N 04-77-7173 "Data Flow Systems: Algorithms and Complexity" (2005-2007)
- Russian Foundation for Basic Research, grant N 06-01-00584-a "Methods for Program Obfuscation" (2006-2008)
- President's Grant "Leading Scientific Schools NSh-8464.2006.1" (2006-2008)

Past projects:

- Federal Agency of Science and Innovation, contract N 02.442.11.7290 (2006)
- Federal Agency of Science and Innovation, contract N 02.442.11.7291 (2006)
- Web site [CSIN·RU](#) — blog about computer science in Russia and collection of educational materials
- SPRINT Lab Project (supported by Intel) [Code Plagiarism Detection: Critical Survey](#) (2006)
- Competitive Center of Fundamental research grant for young scientists (2005)
- President's Grant "Leading Scientific Schools NSh-2203.2003.1" (2003-2005)
- SPRINT Lab project (supported by Intel) "Program Protection Based on Code Obfuscation" (2005)

CONFERENCES AND SCHOOLS

International conferences/workshops:

- International Symposium "Mathematical Foundations of Computer Science" (MFCS'06)
- International Symposium "Computer Science in Russia" (CSR'06)
- Dagstuhl seminar "Combinatorial and Algorithmic Foundations of Pattern and Association Discovery", May 2006
- "Symposium on Theoretical Aspects of Computer Science" (STACS'05)

Student schools/national conferences:

- Summer school "Modern Mathematics", Dubna, Russia, July 2006
- XVI Workshop "Sintez and Complexity of Circuits", St.Petersburg, Russia, June 2006
- Spring School in Computer Science EPIT'06, Ile-de-Re, France, May 2006
- Russian-French Conference of Young Scientists, Moscow, April 2006
- 11th Estonian Winter School in Computer Science, March 2006
- Summer Student Conference at Intel Corp., Nizhniy Novgorod, August 2005
- Workshop on Theoretical and Practical Aspects of Program Obfuscation, Moscow, May 2005
- 9th Estonian Winter School in Computer Science, 2004
- International Seminar "Discrete Mathematics and Applications", Moscow, 2004
- Joint Advanced Student School, St.Petersburg, 2004
- FerienAkademie, Germany, 2003
- 8th Estonian Winter School in Computer Science, 2003
- First German-Russian Student School, St.-Petersburg, 2003

COMMUNITY SERVICE

Reviewing articles for the journal "Zapiski seminarov POMI", for STACS'05, STACS'06, IWPEC'06, CSR'06, CSR'07, STACS'07, CPM'07, AutoMathA'07, ESA'07 and FOCS'07 conferences.

Scientific advising of B.Sc. theses of Dmitri Pavlov and Alexandr Kotov (2005) at St.Petersburg University of Information Technologies, Mechanics and Optics (SPbSU ITMO).

Local organizer of German-Russian Joint Advanced Student School 2004, member of organizing committee of CSR'06, and co-organizer of the workshop "Theoretical and Practical Aspects of Program Obfuscation", 2005.

Mathematical competition organization: Russian National Olympiad, member of jury and methodical committee 2001-2002. International mathematical competition "Kangaroo", member of methodical committee 2001-2002.

INDUSTRIAL
EXPERIENCE

MEDesign Ltd, St.Petersburg, Russia

C++ coder

July, 2004 - September, 2004

Development of some features of search engine Directrix.ru. Key accomplishment: design and implementation of web-page topic categorization procedure.

MEDesign Ltd, St.Petersburg, Russia

Project manager

September, 2004 - May, 2005

Internet-projects management: planning and control. Key accomplishment: development of StartSite.ru (first startpage-generator in Russia).

TECHNICAL SKILLS

English language: fluent

Computer skills: C++, HTML/CSS, Audacity, Windows/Linux, \LaTeX , Adobe Photoshop

REFERENCES

[Yuri Matiyasevich](#), [Anatol Slissenko](#), [Markus Lohrey](#), [Edward A. Hirsch](#)