

Liam Roditty

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CONTACT INFORMATION

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RESEARCH INTERESTS

Networking, Routing, Computational Geometry, Graph Algorithms, Algorithms Engineering, Game Theory

Research Statement: <http://www.wisdom.weizmann.ac.il/~liamr/rs.pdf>

EDUCATION

2006 - Present PostDoc in the Computer Science school at Weizmann Institute of Science
Host: Prof. David Peleg
2001 - 2006 PhD Student in Computer science, Tel Aviv University
Research Advisor: Prof. Uri Zwick
Thesis title : Dynamic and static algorithms for path problems in graphs
1998 - 2001 M.Sc in Computer Science, Tel Aviv University, Magna Cum Laude.
Research Advisor: Prof. Uri Zwick
Thesis title: Roundtrip spanners and roundtrip routing in directed graphs
1995 - 1998 B.A in Computer Science and Economic, Tel Aviv University, Magna Cum Laude.

HONORS AND AWARDS

2006 Best Teaching Assistant Award at the School of Computer Science.
2006 Best Teaching Assistant Award at the Engineering Faculty.
2005 The Intel prize for PhD students.
2005 The Alex de Rothschild PhD Fellowship.
2004 The Deutsch Prize for Excellence in PhD studies, School of Computer Science, Tel Aviv University.
1998 Dean honor's list, faculty of Exact Sciences, Tel Aviv University.
1997 Dean honor's list, faculty of Exact Sciences, Tel Aviv University.

EMPLOYMENT

2001-2006 Lecturer and Teaching Assistant, School of Computer Science, Tel Aviv University.
Courses taught: "C" programming, Object oriented programming, workshop on dynamic algorithms and a seminar on algorithms.
1998-2001 Algorithms Developer and Senior Software engineer, in Advanced Recognition Technologies (ART), Tel Aviv Israel.
1996-1998 Databases Programmer in Scanvec

PUBLICATION LIST

1. David Peleg and Liam Roditty
Spanners for Ad Hoc networks with variable transmission range
Submitted
2. Timothy Chan, Mihai Patrascu, and Liam Roditty
Dynamic Connectivity: Connecting to Networks and Geometry
Submitted

3. Liam Roditty and Lee-Ad Gottlieb
Dynamic geometric spanners with low degree and optimal update time
Submitted
4. Liam Roditty and Asaf Shapira
All-pairs shortest paths with a sublinear additive error
Submitted
5. Yuval Emek, David Peleg and Liam Roditty
A near-linear time algorithm for computing replacement paths in planar directed graphs
SODA 2008
6. Lee-Ad Gottlieb and Liam Roditty
Improved Algorithms for Fully Dynamic Geometric Spanners
SODA 2008
7. Liam Roditty
Fully dynamic geometric spanners
SoCG 2007: 373-380
8. Liam Roditty
On the k -simple shortest paths problem in weighted directed graphs.
SODA 2007: 920-928
9. Liam Roditty and Michael Segal
On bounded leg shortest paths problems
SODA 2007: 775-784
10. Susanne Albers, Stefan Eilts, Eyal Even-Dar, Yishay Mansour and Liam Roditty
On Nash equilibria for a network creation game
SODA 2006: 89-98
11. Liam Roditty and Uri Zwick
Replacement paths and k simple shortest paths in unweighted directed graphs
ICALP 2005: 249-260
12. Liam Roditty, Mikkel Thorup and Uri Zwick
Deterministic constructions of approximate distance oracles and spanners
ICALP 2005: 261-272
13. Liam Roditty and Uri Zwick
Dynamic approximate all-Pairs shortest Paths in undirected Graphs
FOCS 2004: 499-508
14. Liam Roditty and Uri Zwick
On dynamic shortest paths problems
ESA 2004: 580-591
15. Liam Roditty and Uri Zwick
A fully dynamic reachability algorithm for directed graphs with an almost linear update time
STOC 2004: 184:191
16. Liam Roditty
A faster and simpler fully dynamic transitive closure
SODA 2003: 404-412
Accepted to the ACM Transactions on Algorithms (TALG).
17. Liam Roditty and Uri Zwick
Improved dynamic reachability algorithms for directed graphs
FOCS 2002: 679-686
Accepted to SIAM Journal on Computing (SICOMP)

18. Liam Roditty, Mikkel Thorup and Uri Zwick
Roundtrip spanners and roundtrip routing in directed graphs.
SODA 2002: 844-851
Accepted to ACM Transactions on Algorithms (TALG)

TALKS AT SEMINARS

1. Computer Science Colloquium, Tel-Aviv University, June 2006
2. Communication Seminar, Tel-Aviv University, May 2006
3. Computer Science Theory Lunch, Princeton, Spring 2006.
4. Computer Science Seminar, Brown, January 2006
5. Theoretical Computer Science Seminar, DIMACS/Rutgers, January 2006
6. Computer Science Theory Seminar, Haifa University January 2006
7. Computer Science Colloquium, Ben-Gurion University, February 2005 and February 2006
8. Computer Science Colloquium, Bar-Ilan University, January 2006
9. Bertinoro Workshop on Algorithms and Data Structures (ADS), May-June 2005
10. Computer Science Colloquium, Netanya Academic College, December 2004
11. Special seminar in University of Rome "La Sapienza", October 2004
12. Algorithms Seminar, Tel-Aviv University, May 2006, October 2004, October 2003, May 2003
13. Workshop on Dynamic Algorithms and Applications, January 2004
14. Workshop on Discrete Metric Spaces and their Algorithmic Applications, March 2002

REFERENCES

- Prof. Uri Zwick, School of Computer Science, Tel Aviv University, Tel Aviv 69978, Israel.
Phone: +972-3-6409610 Email: zwick@post.tau.ac.il
- Prof. David Peleg, School of Computer Science, Weizmann Institute of Science, Rehovot, Israel. Phone: +972-8-934-3478 Email: david.peleg@weizmann.ac.il
- Prof. Valerie King, University of Victoria Dept. of Computer Science, Victoria, BC , Canada.
Phone: (250)721-7299. Email: val@cs.uvic.ca.
- Prof. Giuseppe F. Italiano, Universit di Roma "Tor Vergata" via del Politecnico, Roma, Italy.
Phone: +39 06 7259 7394. Email: italiano@disp.uniroma2.it
- Prof. Mikkel Thorup, AT&T Labs-Research, NJ 07932 USA.
Phone: +1-973-360-8904. Email: mthorup@research.att.com
- Prof. Yishay Mansour, School of Computer Science, Tel Aviv University, Tel Aviv 69978, Israel. Phone: +972-3-640-8829. Email: mansour@cs.tau.ac.il.