Michael Borokhovich 512-293-1978 michaelbor@gmail.com
Postdoctoral Fellow

Interested in an applied research position in the areas of computer networks, SDN, and large graph analytics

Education

Ph.D., Communication Systems Engineering. 2009-2013
Ben-Gurion University of the Negev, Beer Sheva, Israel.
Thesis: Algebraic Algorithms for Information Spreading.

M.Sc., Communication Systems Engineering. 2007-2009
Ben-Gurion University of the Negev, Beer Sheva, Israel.
Graduated Summa Cum Laude.
Thesis: Gossip and Random Walk Techniques for Network Coding.

B.Sc., Communication Systems Engineering. 2001-2005
Ben-Gurion University of the Negev, Beer Sheva, Israel.
Graduated Cum Laude.
Project: Traffic Generator Implementation on EZchip Network Processor

Professional Knowledge

- Algorithms simulation
- Communication protocols
- Wolfram Mathematica
- C/C++, Python, Matlab
- GraphLab (graph engine)
- Real time programming
- Linux embedded, Kernel drivers
- Network processors
- Machine learning
- Sumo traffic simulator

Experience

University of Texas in Austin, ***Postdoctoral Fellow.*** 2014-present
- Network algorithms for graph engines, networks modeling.

Ben-Gurion University of the Negev, ***Postdoctoral Fellow, Lecturer***. 2013-2014
- Computer networks.

Ben-Gurion University of the Negev, ***Teaching Assistant*, *Lab Instructor.*** 2007-2013
- Computer networks.
- Developed virtual computer networks lab based on Xen Virtualization.
- Information theory.
- Signal processing.

T-Labs Berlin, Telekom Innovation Laboratories, ***Research Intern.*** 2012-2012
- Software Defined Networks (SDN) - “Fast failover” in OpenFlow

VocalTec, ***Software Engineer*.** 2005-2007
- Worked in the VoIP Gateway project.
- Developed in C, Linux embedded, Real time environment.
- Developed drivers on Intel IXP2350 Xscale processor.
- Developed microcode for network processor IXP2350, MEv2.

Elisra Electronic Systems, ***RF Electronics Technician*.** 2000-2001

Military Service

Bamtza 108, Israeli Air Forces, ***Electronics Technician, Team Leader*.** 1997-2000

Awards

- Kreitman Post-Doctoral Scholarship 2014
- Excellence in teaching award, Ben-Gurion University. 2010
- Graduated Summa Cum Laude, M.Sc. Ben-Gurion University. 2009
- Cisco award for excellence in research and studies. 2009
- Research Scholarship from the advisor, Dr. Chen Avin. 2009
- Excellence Scholarship from the CSE department at BGU. 2008
- Graduated Cum Laude, B.Sc. Ben-Gurion University. 2005

Conference Publications

L. Schiff, M. Borokhovich, S. Schmid.
Reclaiming the Brain: Useful OpenFlow Functions in the Data Plane.
ACM Workshop on Hot Topics in Networks (HotNets), 2014.

M. Borokhovich, L. Schiff, S. Schmid.
Provable Data Plane Connectivity with Local Fast Failover: Introducing OpenFlow Graph Algorithms.
ACM SIGCOMM Workshop on Hot Topics in Software Defined Networking (HotSDN), 2014.

C. Avin, M. Borokhovich, Z. Lotker, and D. Peleg.
Distributed Computing on Core-Periphery Networks: Axiom-based Design.
International Colloquium on Automata, Languages, and Programming (ICALP), 2014.

M. Borokhovich, S. Schmid.
How (Not) to Shoot in Your Foot with Local Fast Failover.
International Conference on Principles of Distributed Systems (OPODIS), 2013.

C. Avin, M. Borokhovich, Z. Lotker, and D. Peleg.
Brief Announcement: Distributed MST in Core-Periphery Networks.
International Symposium on Distributed Computing (DISC), 2013.

C. Avin, M. Borokhovich, S. Schmid.
OBST: A Self-Adjusting Peer-to-Peer Overlay Based on Multiple BSTs.
IEEE International Conference on Peer-to-Peer Computing (P2P), 2013.

C. Avin, M. Borokhovich, B. Haeupler, and Z. Lotker.
Self-Adjusting Grid Networks to Minimize Expected Path Length.
International Colloquium on Structural Information and Communication Complexity (SIROCCO), 2013.

C. Avin, M. Borokhovich, Y. Hadad, E. Kantor, Z. Lotker, M. Parter, and D. Peleg.
Generalized Perron-Frobenius Theorem for Multiple Choice Matrices, and Applications.
ACM-SIAM Symposium on Discrete Algorithms (SODA), 2013.

C. Avin, M. Borokhovich, Y. Hadad, Z. Lotker
Optimal virtual traffic light placement.
ACM International Workshop on Foundations of Mobile Computing (FOMC), 2012.

Avin Chen, Borokhovich Michael, Asaf Cohen, Zvi Lotker.
Efficient Distributed Source Coding for Multiple Receivers Via Matrix Sparsification.
IEEE International Symposium on Information Theory (ISIT), 2011.

Avin Chen, Borokhovich Michael, Keren Censor-Hilel, Zvi Lotker.
Order Optimal Information Spreading Using Algebraic Gossip.
ACM Symposium on Principles of Distributed Computing (PODC), 2011.

Borokhovich Michael, Avin Chen, Zvi Lotker.
Tight Bounds for Algebraic Gossip on Graphs.
IEEE International Symposium on Information Theory (ISIT), *2010*.

Avin Chen, Borokhovich Michael, Arik Goldfeld.
Mastering (Virtual) Networks. A Case Study of Virtualizing Internet Lab.
International Conference on Computer Supported Education (CSEDU), *2009*.

Journal Publications

C. Avin, M. Borokhovich, B. Haeupler, and Z. Lotker.
Self-Adjusting Grid Networks to Minimize Expected Path Length.
To appear in: *Theoretical Computer Science*.

C. Avin, M. Borokhovich, Y. Haddad, E. Kantor, Z. Lotker, M. Parter, D. Peleg
Testing the Irreducibility of Nonsquare Perron-Frobenius Systems.
To appear in: *Information Processing Letters, Elsevier.*

M. Borokhovich, C. Avin, and Z. Lotker.
Bounds for Algebraic Gossip on Graphs.
Random Structures and Algorithms Journal (RSA), 2013.

C. Avin, M. Borokhovich, K. Censor-Hillel, and Z. Lotker.
Order Optimal Information Spreading Using Algebraic Gossip.
The International Journal of Distributed Computing (DIST), 2013.

Papers Under Review

C. Avin, M. Borokhovich, B. Haeupler, Z. Lotker, C. Scheideler, S. Schmid
Self-Adjusting Distributed Data-structures.
Submitted to: *IEEE/ACM Transactions on Networking.*

I. Mitliagkas, M. Borokhovich, A. Dimakis, C. Caramanis
FrogWild! - Fast PageRank Approximations on Graph Engines.
Submitted to: *VLDB*.

Talks

Reclaiming the Brain: Useful OpenFlow Functions in the Data Plane.
ACM Workshop on Hot Topics in Networks (HotNets).
Los Angeles, USA. October 2014.

Distributed Computing on Core-Periphery Networks: Axiom-based Design.
International Colloquium on Automata, Languages, and Programming (ICALP).
Copenhagen, Denmark. July 2014.

Generalized Perron-Frobenius Theorem and Optimal Power Allocation for Multiple Transmitters.
Simons Seminar, UT Austin.
Austin, USA. April 2014.

Generalized Perron-Frobenius Theorem for Multiple Choice Matrices, and Applications.
CSE Colloquium, BGU.
Beer-Sheva, Israel. March 2014.

How (Not) to Shoot in Your Foot with Local Fast Failover.
International Conference on Principles of Distributed Systems (OPODIS).
Nice, France. December 2013.

Brief Announcement: Distributed MST in Core-Periphery Networks.
International Symposium on Distributed Computing (DISC).
Jerusalem, Israel. October 2013.

Self-Adjusting Grid Networks to Minimize Expected Path Length.
International Colloquium on Structural Information and Communication Complexity (SIROCCO).
Ischia, Italy. July 2013.

Order Optimal Information Spreading Using Algebraic Gossip.
ACM Symposium on Principles of Distributed Computing (PODC).
San Jose, USA. June 2011.

Tight Bounds for Algebraic Gossip on Graphs.
IEEE International Symposium on Information Theory (ISIT).
Austin, USA. June 2010.

Tight Bounds for Algebraic Gossip on Graphs.
10th Haifa Graph Workshop.
Haifa, Israel, May 2010.

Tight Bounds for Algebraic Gossip on Graphs.
CSE Colloquium, BGU.
Beer-Sheva, Israel. May 2010.

Mastering (Virtual) Networks. A Case Study of Virtualizing Internet Lab.
International Conference on Computer Supported Education (CSEDU).
Lisbon, Portugal. March 2009.