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Noam Goldberg

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Education

PhD, Rutgers Center for Operations Research (RUTCOR), Rutgers University, New Brunswick, NJ, January 2010 (completed in October 2009)

- Advisor: Prof. Jonathan Eckstein
- Research of optimization algorithms for classification with information complexity penalties
- Advanced courses in algorithms, discrete optimization, combinatorics, artificial intelligence, network design & game theory
- GPA 3.77

Master of Science, Leon Recanati School of Business, Tel Aviv University, Tel Aviv, Israel, 2004

- Decisions & Operations Research
- Obtained the masters while working full time for ECI Telecom Ltd. The topic of the thesis, “The Connected Facility Problem – With an Application to Virtual Private Networks – A Computational Study of Proposed Solution Techniques”, supervised by Prof. Shoshana Anily, was motivated by applications encountered in the capacity of a system engineer at ECI.

Bachelor of Science, University of Toronto, Toronto, Ontario, Canada, 1998

- Computer Science major
- Graduated with High Distinction

Bachelor of Business Administration, Schulich School of Business, York University, Toronto, Ontario, Canada, 1996

- Special Honors program
- Concentration in Investment and Finance

Publications and refereed conferences

- Noam Goldberg and Chung-chieh Shan, “*Boosting Optimal Logical Patterns Using Noisy Data*”, Proceedings of the SIAM International Conference on Data Mining, 2007. (FP acceptance rate 12%).
- Noam Goldberg, Jonathan Word, Endre Boros and Paul Kantor, “*Optimal Sequential Inspection Policies*”, to appear in Annals of Operations Research.
- Jonathan Eckstein and Noam Goldberg, “*An Improved Branch-and-Bound Method for*

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Maximum Monomial Agreement”, NIPS Workshop in Optimization for Machine Learning, Whistler BC, Canada, 2008.

Reports and/or working papers:

- Noam Goldberg, Jonathan Word, Endre Boros and Paul Kantor, “*Optimal Sequential Inspection Policies*”, RUTCOR Research Report (RRR) #14-2008 and DIMACS Technical Report #2008-7.
- Noam Goldberg, Tamara G. Kolda and Ann Yoshimura, “*Concurrent Optimization with DUET: DIRECT Using External Trial Points*”, Sandia National Labs, Technical Report #SAND2008-5844.
- Jonathan Eckstein and Noam Goldberg, “*An Improved Branch-and-Bound Method for Maximum Monomial Agreement*”, RUTCOR Research Report (RRR) #14-2009
- Noam Goldberg and Jonathan Eckstein, “*Tightened L_0 -relaxation penalties for classification*”

Presentations

- “*Tightened L_0 -relaxation penalties for classification*”, INFORMS NJ Chapter, September 2009.
- “*Tightened L_0 -relaxation penalties for classification*”, ISMP, Chicago IL, August 2009.
- “*An Improved Branch-and-Bound Method for Maximum Monomial Agreement*”, NIPS Workshop in Optimization for Machine Learning, Whistler BC, Canada, December 2008.
- “*Dynamic Programming for Efficient Container Inspection Policies*”, INFORMS Annual Meeting, Washington DC, October 2008.
- “*Concurrent Optimization with DUET: DIRECT Using External Trial Points*”, Informatics and Decision Sciences seminar, Sandia National Labs, August 2008.
- “*Dynamic Programming for Enumeration of Efficient Container Inspection Policies*”, Informatics and Decision Sciences seminar, Sandia National Labs, July 2008.
- “*Dynamic Programming for Enumeration of Efficient Container Inspection Policies*”, DHS University Network Summit, Student Day, March 2008.
- “*Boosting Optimal Logical Patterns Using Noisy Data*”, Operations Research Seminar, Technion, Israel Institute of Technology, January 2008.
- “*Boosting Optimal Logical Patterns Using Noisy Data*”, SDM07, Minneapolis MN, May 2007.
- “*Boosting Optimal Logical Patterns Using Noisy Data*”, RUTCOR, Brown Bag Seminar, April 2007.

Patents and technical publications:

- Provin Gurung, Eric van den Berg, Noam Goldberg, Sunil Samtani, Aristides Staikos. “*Local unicast routing agent*”. To appear in MILCOM 2009.
- Eitan Yehuda and Noam Goldberg. US Patent #20050185643: “*Fast Rerouting of Traffic in a Circuit Switched Mesh Network*”. Assignee ECI Telecom.Ltd.
- Noam Goldberg, Idan Kaspit and Igor Balter. US Patent #7,551,571: “*Technology for Improving Spanning Tree Protocols in Ethernet Networks Supporting VLANs*”. Assignee ECI Telecom Ltd.

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- Contributions incorporated in the TeleManagement Forum Multi-Technology Network Management documents #513, #608 and #814.

Work experience

Postdoctoral Fellow, Technion – Israel Institute of Technology, Haifa, Israel, November 2009 - present

- Researching optimization and game theoretic applications in resource allocation for counter-terrorism.

Co-op/ part-time position, Telcordia Applied Research, Piscataway, NJ, December 2008 – August 2009

- Researching algorithms for assignment of link weights for congestion avoidance in shortest path routing.

Intern, Sandia National Lab, Livermore, CA, Summer 2008

- Mentors: Dr. Tamara G. Kolda and Dr. Ann Yoshimura
- Researched global derivative free optimization methods and specifically extending the DIRECT algorithm for using external trial points.

Research Assistant, Rutgers University, New Brunswick, NJ, 2007 – May 2008

- Mentors: Prof. Paul Kantor and Prof. Endre Boros
- NSF funded project, “Deceptive Detection Strategies for Container Inspection”.
- Duties included basic research, implementation of optimization algorithms, experimental and computational studies.

Teaching Assistant, Rutgers University, New Brunswick, NJ, 2004 – 2007

- Taught recitations and graded courses in Precalculus, Calculus II and Theory of Linear Optimization.

Summer Research Project, Prof. Peter Hammer, RUTCOR (NSF and NIH funded project). August 2005.

- Implemented a local search and simulated annealing algorithm for fine tuning Logical Analysis of Data (LAD) parameters through cross-validation.

Awards

- York University Continuing Education Scholarship, 1997
- University of Toronto Dean’s List, 1998
- ECI Telecom, Business Unit CEO award, 1999.
- ECI Telecom, awarded funding of (part-time) Master's studies, 2000-2003
- NATO Advanced Studies Institute travel grant for the Summer School in Combinatorial

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Optimization, Montreal 2006

- Rutgers University Graduate School travel grants, 2006, 2007
- Rutgers University Graduate School, pre-dissertation and special study opportunity award, 2006, 2008
- DIMACS travel grant, 2006
- SIAM Student Travel Award, SDM 2007
- DIMACS graduate student award given for a proposed research project, December 2008
- Winner of the INFORMS NJ Chapter student research contest, 2009

Technical Skills

- Software: MS-Office, Maple, S-PLUS, SPSS, Visio, CPLEX, COIN-OR
- Programming: C++, C, JAVA, MATLAB, AMPL, MOSEL
- Operating System: UNIX, Linux, Windows
- Proven ability to master new protocols, programming languages and systems quickly and thoroughly

Non academic work experience

Operations Research Intern, Health Products Research, Strategic Planning Department, Whitehouse, NJ, Summer 2005.

- Updated an LP model with additional constraints in a marketing strategy and call plan optimization application (C++, CPLEX).
- Studied and fine tuned the performance of a MIP formulation for a call plan problem in CPLEX.

System Engineer, ECI Telecom, Petach Tikva, Israel, 2000 – 2004

- Defined and specified functional and software requirements for operation of provider bridge (Ethernet over optical) equipment.
- Researched and defined MPLS protection network architectures for an Ethernet over MPLS application.
- Defined embedded and management software functionality to support automatic network topology discovery.
- Defined and designed distributed software architectures for a standby management system.
- Represented the company at an international forums and standardization bodies.

Software Engineer, ECI Telecom, Petach Tikva, Israel, 1998 – 2000

- Designed and implemented an Element Management System database synchronization, and logical compression (in C++).
- Designed and implemented management interfaces and functionality for equipment redundancy.

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Other

- Bilingual; fluent both in English and Hebrew
- Dual American and Israeli citizenship

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References

Professor Endre Boros
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Tel: (732) 445 3235

Professor Jonathan Eckstein
Rutgers Business School MSIS and RUTCOR
Email: jeckstei@rci.rutgers.edu
Tel: (732) 445-3272

Professor Paul Kantor
School of Communication, Information and Library Studies, Rutgers University
Email: kantor@scils.rutgers.edu
Tel: (732) 932-7500 x8216

Dr. Tamara G. Kolda
Principal member of technical staff, Sandia National Labs, Livermore, CA
Email: tgkolda@sandia.gov
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