Martin Pál

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Research interests

Search advertising auction dynamics, auction design and bidding strategies, game theory, approximation algorithms, stochastic optimization.

Education and Employment

10/2005–now: Engineer at Google, Inc.
04/2005–08/2005: Postdoc at Bell Labs Research, Murray Hill, NJ.
09/2004–04/2005: Postdoc at the DIMACS center, Rutgers University.
08/2000–08/2004: Ph.D. student, Department of Computer Science, Cornell University
Advisor: Éva Tardos
Thesis: Cost Sharing and Approximation
Minor field: Operations Research

1995–2000: "magister" with honors, Comenius University, Bratislava, Slovakia
Majors: Mathematical Methods in Computer Science, Computer Graphics
Advisor: Branislav Rovan
Thesis: Online and Offline Paging Algorithms

Honors and Awards

First prize in the Manufacturing and Service Operations Management Society (MSOM) Student Paper Competition, 2004.
Best Student Paper Award, Mathematical Foundations of Computer Science (MFCS), 2004.
Best Student Paper Award, European Symposium on Algorithms (ESA), 2003.
ACM Collegiate Programming Contest Finals 1999, 18th place (team of 3).
International Mathematics Olympiad 1995, Silver Medal.
International Physics Olympiad 1995, Honorable mention.

Teaching experience

Teaching Assistant, Cornell University:
Fall 2003: CS 783 Approximation Algorithms
Fall 2001: CS 684 Approximation and Flow Algorithms
Spring 2001: CS 482 Introduction to Analysis of Algorithms
Fall 2000: CS 381 Introduction to Theory of Computing

Teaching assistant, Comenius University:
Fall 1998 – Spring 2000: Formal Languages and Automata

Fall 1996 – Spring 2000: Part time teacher, High School of Jur Hronec, Bratislava, Slovakia. I have taught regular programming classes in Pascal (96–98) and an elective class to prepare students for the National and International Olympiad in Informatics (98–00).

Service

2001–2004: Coach, Cornell ACM Collegiate Programming Contest team. During the three years of my tenure, Cornell has three times won the Greater New York regional contest and advanced to the World Finals.

1999–present: Organizer, the Internet Problem Solving Contest (`http://ipsc.ksp.sk`). IPSC is an annual online contest in programming and solving problems using a computer. With steadily growing participation, we had more than 500 participating teams in 2004.

1997–2002: Scientific Committee, Slovak Olympiad in Informatics for high school students. Designed contest problems and solutions. 1997–00: Coordinated grading, organized regional and national round of the Olympiad. Coach of teams representing Slovakia at the International Olympiad in Informatics ('99) and Central European Olympiad in Informatics ('98,'99).

Head judge for the Central European Olympiad in Informatics, Bratislava, 9–13 October 1996. Author of the judging software.

Fall 2002–Fall 2003: I coordinated a weekly Theory Discussion Group at Cornell for students interested in theoretical computer science.

Referee for the SIAM Journal of Computing, INFORMS Mathematics of Operations Research, Operations Research Letters, STOC 2004, FOCS 2004, SODA 2005, IPCO 2005.

Publications

Muthu Muthukrishnan, Martin Pál, Zoya Svitkina. Stochastic Models for Budget Optimization in Search-Based Advertising. *manuscript*, 2006.

Budget Optimization in Search-Based Advertising Auctions. Jon Feldman, S. Muthukrishnan, Martin Pál, Cliff Stein. *manuscript*, 2006.

Maximizing a Submodular Set Function subject to a Matroid Constraint. Gruia Calinescu, Chandra Chekuri, Martin Pál and Jan Vondrák. *manuscript*, 2006.

Chandra Chekuri and Martin Pál. An $O(\log n)$ Approximation Ratio for the Asymmetric Treveling Salesman Path problem. *APPROX* 2006.

Ara Hayrapetyan, David Kempe, Martin Pál and Zoya Svitkina. Unbalanced Graph Cuts. *ESA* 2005.

Chandra Chekuri and Martin Pál. Recursive Greedy Algorithm for Walks in Directed Graphs. *FOCS*, 2005.

Moses Charikar, Chandra Chekuri and Martin Pál. Sampling for two-stage stochastic optimization with recourse. *RANDOM* 2005.

Anupam Gupta, Martin Pál, R. Ravi, Amitabh Sinha. What about Wednesday? Approximation Algorithms for Multistage Stochastic Optimization. *APPROX* 2005.

Anupam Gupta, Martin Pál. Stochastic Steiner Trees without a Root. *ICALP* 2005.

Luca Becchetti, Jochen Könemann, Stefano Leonardi, Martin Pál. Sharing the cost more efficiently: Improved Approximation for Multicommodity Rent-or-Buy. *16th Annual ACM-SIAM Symposium on Discrete Algorithms*, 2005.

Retsef Levi, Martin Pál, Robin Roundy, David Shmoys. Approximation Algorithms for Stochastic Inventory Control Models. *Cornell University OR&IE Technical Report 1412*. First prize in MSOM 2004 Student Paper competition.

Martin Pál. Cost Sharing and Approximation. *PhD thesis, Cornell University*, January 2005.

Hubie Chen, Martin Pál. Quantified Constraint Satisfaction: The Approximability of a Minimization Problem. *Symposium on Mathematical Foundations of Computer Science (MFCS)*, 2004. Best Student Paper award.

Anupam Gupta, Martin Pál, R. Ravi, Amitabh Sinha: Boosted Sampling: Approximation Algorithms for Stochastic Optimization. *36th ACM Symposium on Theory of Computing*, 2004.

Anupam Gupta, Amit Kumar, Martin Pál and Tim Roughgarden: Approximation Via Cost Sharing: Simple Approximations for the Multicommodity Rent-or-Buy Problem. *Proceedings of the 44th Annual IEEE Symposium on the Foundations of Computer Science*, 2003.

Mohammad Mahdian, Martin Pál: Universal Facility Location. *European Symposium on Algorithms*, 2003. Best Student Paper award.

Martin Pál, Éva Tardos: Strategy Proof Mechanisms via Primal-Dual Algorithms. *Proceedings of the 44th Annual IEEE Symposium on the Foundations of Computer Science*, 2003.

Martin Pál, Éva Tardos, Tom Wexler: Facility Location with Hard Capacities. *Proceedings of the 42nd Annual IEEE Symposium on the Foundations of Computer Science*, 2001.

Alex Slivkins, Martin Pál: On Fixed-Parameter Tractability of Some Routing Problems. *Cornell University Technical Report TR2002-1874*, 2002.

Martin Pál: Online and Offline Paging Algorithms. *Diploma thesis, Comenius University, Bratislava, Slovakia*, 2000.

Ivona Bezáková, Martin Pál: Planar Finite Automata. *Student Science Conference, Comenius University, Bratislava*, 1999.

Personal

Citizenship - Slovak Republic. Visa status - H1.

References

Available upon request.