Curriculum Vitae

Mohammad Moharrami

Computer Science and Engineering
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Research Interests

- Approximation Algorithms
- Combinatorial optimization
- Metric embeddings and applications of geometry in computer science

Education

- University of Washington, Seattle, Washington, USA
  Computer Science,
  Advisor: James R. Lee,
  From: September 2008 GPA:3.7/4
- University of Toronto, Toronto, Ontario, Canada
  M.Sc. in Computer Science,
  Advisor: Avner Magen,
  From: September 2006 To: February 2008
  GPA:3.94/4
- Sharif University of Technology, Tehran, Iran
  B.Sc. in Computer Engineering, Major: Software Engineering,
  From: September 2002 To: February 2006
  GPA:16.14/20
- Allameh Helli High School, Tehran, Iran
  Part of National Organization for Development of Exceptional Talents
  Diploma, Mathematics and Physics Discipline, 1998–2001.

Research

- **Research Assistant** for J. R. Lee in University of Washington since Fall 2008
  Worked on "The sparsest cut problem and Integrality gaps" and "Multiscale methods for embeddings."
- **Research Assistant** for A. Magen in University of from Fall 2006 to Summer 2008
  Worked on "Lower bounds for metric embeddings," and "Application of hierarchies on special graphs."
- **Undergraduate Research** in Institute for Studies in Theoretical Physics and Mathematics (IPM) Summer and Fall 2005
  Worked on "Low distortion embedding of planar graphs."
  Mentor: MohammadTaghi Hajiaghayi

Publications

- **Dimension reduction for finite trees in ℓ_1**
  with J. R. Lee, A. De Mesmay, to appear in SODA'12.
- **Power of Weak versus Strong Triangle Inequalities**
  with S. Sachdeva, preprint.
- **Bilipschitz Snowfakes, Metrics of Negative Type, and PSD Flows**
  with J. R. Lee, STOC'10.
- **On the Optimality of Gluing over Scales**
  with A. Jaffe, J. R. Lee, Journal of Discrete & Computational Geometry 46(2): 270-282 (2011).
- **On the Optimality of Gluing over Scales**
  with A. Jaffe, J. R. Lee, APPROX'09.
- **Robust Algorithms for Minor-Free Graphs Based on the Sherali-Adams Hierarchy**
  with A. Magen, APPROX'09.
- **On the nonexistence of Dimension Reduction in ℓ_2^2**
  with A. Magen, CCCG'08.
- **Plane Embedding of Planar Metrics**
  with M. Hajiaghayi, E. D. Demaine, M. Bateni, Journal of Discrete & Computational Geometry 38(3): 615-637 (2007).
- **Plane Embedding of Planar Metrics**
  with M. Hajiaghayi, E. D. Demaine, M. Bateni, SoCG'06.

Talks

- **Bilipschitz snowfakes and metrics of negative type**
  in STOC'10.
- **Coarse Differentiation and Multi-flows in Planar Graphs**
  in Geometry and analysis in the theory of computation summer school, 2009.
- **On the Optimality of Gluing over Scales**
  in APPROX'09.
- **Robust Algorithms for Minor-Free Graphs Based on the Sherali-Adams Hierarchy**
  in APPROX'09.
- **On the nonexistence of Dimension Reduction in ℓ_2^2**
  in CCCG'08.

Honors and Awards

- **Ranked 14th** in ACM/ICPC World Finals in 2007.
- **Ranked 13th** in ACM/ICPC World Finals in 2006.
- **Ranked 1st** in ACM/ICPC Regional (East Central North America) contest in 2006.
- **Ranked 2nd and 1st** in ACM/ICPC Regional (South West Asia) contest in 2004 and 2005.
- **Silver Medal** in International Olympiad in Informatics, Summer 2002.
- **Gold Medal** in 11th Iranian National Olympiad in Informatics, Summer 2001.
- **Bronze Medal** in Iranian National Mathematics Olympiad, Summer 2000.

Teaching Experience

- **Teaching Assistant**
  University of Washington:
  - **Design and Analysis of Algorithms**, Fall 2010
  - **Introduction to the Theory of Computation**, Spring 2011

  University of Toronto:
  - **Computational Complexity and Computability**, Summer 2007, Fall 2007
  - **Algorithm Design and Analysis**, Fall 2006

  Sharif University:
  - **Data Analysis and Algorithm**, Spring 2004
  - **Discrete Structures**, Spring 2003
  - **Theory of Machines and Languages**, Fall 2003
  - **Data Structures and Algorithms**, Fall 2002

Other Activities and Works

- **Reviews for Journals and Conferences:** for Journal of Theory of Computing, Journal of Combinatorial Theory, Series B, APPROX, FOCS, SoCG, CSICC.
- Member of the Scientific Committee of Iranian Olympiad in Informatics
  Winter 2002-Summer 2006
  Teaching algorithms, math, and programming; Holding and grading exams.
- Head of INOI summer camp Iranian Olympiad in Informatics
  Summer 2004
  Coordinating trainers and and teaching material, giving weekly reports, short-time planning and holding exams. *The camp included more than 30 high school students, and a group of more than 10 trainers taught them algorithm basics and programming.*