## Seyed Rouzbeh Hasheminezhad

**Contact Information**

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**Research Interests**

- Design & Analysis of Algorithms
- Approximation Algorithms
- Randomized Algorithms
- Computational Geometry
- Combinatorial Optimization
- Algorithmic Game Theory

**Education**

- **Sharif University of Technology** 2011 - present
  B.Sc. in Computer Engineering (Information Technology)
  B.Sc. in Pure Mathematics (Minor Program)
  Departments of Computer Engineering & Mathematical Sciences, Sharif University of Technology, Tehran, Iran
  **Current Cumulative GPA: 19.03/20**, **Last Semester's GPA: 19.77/20**

- **Shahid Beheshti Highschool** 2007 - 2011
  Affiliated with National Organization for Development of Exceptional Talents, Urmia, Iran
  Pre-University and High School Diploma in Mathematics & Physics
  Graduated with highest distinction

**Honors and Awards**

- Ranked 1*st* in terms of cumulative GPA among students of Information Technology, 2011 beginners, Sharif University of Technology. (2011-Present)
- Ranked 2*nd* in terms of cumulative GPA among students of Computer Engineering Department (Software Engineering, Hardware Engineering & Information Technology), 2011 beginners, Sharif University of Technology. (2011-Present)
- Got admission to Sharif University of Technology( The best technical university in Iran) which admits only top 1% of all applicants each year.
- Got admission to National Organization for Development of Exceptional Talents(secondary school and high school) which admits only less than 5 % of top applicants each year.

**Research Experience**

**As a research assistant in the Algorithms Lab supervised by Prof. Mohammad Ghodsi**

- Terrain-Based Path Planning Algorithms for Mobile Robots
  **Joint work with: Prof. Mohammad Ghodsi**
  Designed and implemented Terrain-Based Path Planning Algorithms for Mobile Robots, using a contour based tree data structure in order to produce smooth paths.
- Line Simplification Algorithms Under New Error Measures
  **Joint work with: Shervin Daneshpajouh, PhD Candidate in Algorithms**
  We introduced new error measures for the Line Simplification problem and proposed nearly optimal algorithms for each case.
- Approximation & Randomized Algorithms for Guarding 1.5 Dimensional Terrains
  **Joint work with: Sharareh Alipour, PhD Candidate in Algorithms**
  Working on the 1.5D Terrain Guarding problem, Sharareh and I proposed new approximation algorithms with constant approximation ratios, which are more time efficient than previous results, we are trying to introduce the first randomized framework for this problem.
- Expanding Visibility Polygons by Mirrors up to Exactly a Constant Unit Squares
  **Joint work with: Arash Vaezi, M.Sc. in Algorithms**
  We considered extending the visibility polygon of a given point , inside a simple polygon by converting some edges of to mirrors. We proved that several variations of the problem of finding mirror-edges to add exactly k unit squares to the visibility polygon of the given point are NP-complete.

**Teaching Experience**

- **Design and Analysis of Algorithms (TA)** (Spring 2014)
  Prof. Mohammad Ghodsi
- **Data Structures and Algorithms (TA)** (Fall 2013)
  Prof. Mohammad Ghodsi
- **Data Structures and Algorithms (TA)** (Spring 2014)
  Prof. Mohammad Ali Abam
- **Data Structures and Alogrithms (TA)** (Spring 2014)
  Masood Seddighin (PhD Candidate)
- **Discrete Structures (TA)** (Fall 2013 & Spring 2014)
  Prof. Mohammad Izadi
- **Probability and Statistics (TA)** (Fall 2013)
  Prof. Hossein Sameti
- **Advanced Programming in Java (Head TA)** (Fall 2013)
  Peyman Dodangeh (PhD Candidate)

**Academic Memberships**

- **Member of Sharif Theory Group (Approximation Algorithms)** 2011-Present
  Coordinated & supervised by Prof. Hamid Zarrabi-Zadeh.

- **Member of The Iranian Association of Young Mathematicians** 2008-Present
  Honored to be a member of The Iranian Association of Young Mathematicians for outstanding mathematical background & academic achievements.

**Professional & Online Certificates**

- **Java 2 Standard Edition Developer Certification**
  Advanced Information & Communication Technology Research Center, Sharif University of Technology, certificate is signed by Prof. Hamid R. Rabiee, Prof. Yahya Tabesh.
- **Introduction to Computer Science (Building a Search Engine in Python)**
  Udacity , Inc. free interactive college classes, certificate is signed by Prof. David Evans
  Completed the course with highest distinction
- **Crunching Social Networks (Algorithms Course)**
  Udacity , Inc. free interactive college classes, certificate is signed by Prof. Michael Littman
  Completed the course with highest distinction

**Skills**

- **Programming Languages**: Java, Matlab, Python, C, C++, Intel 8086 & IBM360 Assembly
- **Web Development**: HTML, Java Enterprise Edition (Servlets & JSP)
- **Database Technologies**: Oracle Database (SQL)
- **Typesetting**: LaTeX, Microsoft Word
- **Languages**: English, Turkish, Persian, Azerbaijani, Arabic

**References**

- Mohammad Ghodsi
  Full Professor
  Department of Computer Engineering
  Sharif University of Technology
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