

# MOHAMMAD DERAKHSHANI

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RESEARCH INTERESTS      Bioinformatics  
                                 Quantum Computing

EDUCATION                **University of Waterloo**, Canada. 09/2006–09/2008  
M.Sc in Mathematics - Quantum Computing  
Department of Combinatorics and Optimization of Waterloo University.  
GPA: 89.7/100

**Sharif University of Technology**, Tehran, Iran.  
Dual B.Sc. in Software Engineering and Computer Engineering (Computer Architecture)  
Advisor: Prof. M. Ghodsi  
Thesis: Algorithms in Bioinformatics GPA: 17.2/20

HONORS AND AWARDS                **First Rank**, National Graduate Entrance Examination in Computer Science, Iran, Spring 2005. This admission program for continuing M.Sc. studies in Computer Science is a global entrance examination in Iran. National Graduate Entrance Examination is the only and the most important entrance examination for the all universities of Iran including Sharif University.

**Silver Medal**, 17th Iranian National Olympiad in Mathematics, Summer 1999. Each year 40 students are admitted to training camp of National team for Mathematics Olympiad via a 2 step examination over Iran. About 10 individuals of them achieve silver medal.

RESEARCH EXPERIENCES      ◇ **Research Associate, Waterloo University, Since Sep 2008**  
Research Associate in Tetherless Networking lab, School of Computer Science.  
Designing and implementing VLink, disconnection-tolerant network; Supervisor: Prof. S. Keshav

◇ **Graduate Research Assistantship, Waterloo University, 2007**  
Advisors: Prof. Andris Ambainis and Debbie Leung  
Working on  $t$ -design probability structures.

◇ **Undergraduate Research Assistantship, Shahid Beheshti University, 2005**  
Advisors: Prof. Mahdi Sadeghi, University of Tehran and Prof. Changiz Eslachi, Department of Mathematics, Shahid Beheshti University. Worked on Game Theory, Nash Equilibriums, and their applications in Bioinformatics.

◇ **Undergraduate Research Assistantship, University of Tehran and NIGEB<sup>1</sup>, 2005**  
Advisor: Prof. Mehdi Sadeghi, University of Tehran. Joint work with Sasan Amini and Prof. Mehdi Sadeghi on the relation of Codon Disparity and Hydrophobicity with Modern Composition of Mitochondrial Genomes.

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<sup>1</sup>National Research Center for Genetic Engineering and Biotechnology

◇ **Undergraduate Research Assistantship, Sharif University of Technology, Robotics Lab, 2002-2003**

Advisor: Prof. Mansour Jamzad Department of Computer Engineering. I was a member of Sharif RoboCup research group. Worked on Human Following robots and Soccer middle size robots(joint work with 5 other students).

PUBLICATION

S. Guo, M. Derakhshani, M.H. Falaki, U. Ismail, R. Luk, E.A. Oliver, S. Ur Rahman, A. Seth, M.A. Zaharia, S. Keshav, Design and implementation of the KioskNet system, Computer Networks, In Press, Available online 10 August 2010, ISSN 1389-1286, DOI: 10.1016/j.comnet.2010.08.001

TEACHING  
EXPERIENCES

**Teaching Assistant, Waterloo University, Waterloo, Canada**

- Spring 2008, *Discrete Mathematics*
- Winter 2008, *Introduction to Combinatorics*
- Fall 2007, *Calculus*
- Winter 2007, *Linear Algebra*
- Fall 2006, *Calculus*

Held tutorial sessions, marked assignments, and exams.

One of the few graduate students nominated for the Outstanding Teaching Assistant Award.

**Teaching Assistant, Sharif University of Technology, Tehran, Iran**

- Spring 2005, *Discrete Structures*
- Spring 2005, *Design and Analysis of Algorithms*
- Fall 2004, *Data Structures and Fundamentals of Algorithms*
- Spring 2002, *Data Structures and Fundamentals of Algorithms*

Responsibilities included designing and grading homework problem sets and exam problems, teaching problem-solving sessions, and occasional lectures.

**Mathematics and Informatic Olympiad Instructor**

- Taught in annual workshops for students who want to participate in the national entrance exams of the national team of IMO and IOI.

**Instructor, Chemical Engineering Department, Azad University, Tehran, Iran**

- Spring 2003, *Programming with MATLAB*.

SKILLS

Proficient in Java, C/C++, Pascal, MATLAB, L<sup>A</sup>T<sub>E</sub>X, and SQL.

Proficient in GNU/Linux and Unix development tools.

Familiar with Intel 80x86 Assembly, LISP.

Familiar with Max+Plus II, ModelSim, OrCAD, and Verilog Hardware Description Language.