

# MOHAMMAD DERAKHSHANI

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RESEARCH INTERESTS      Bioinformatics  
Quantum Computing and Quantum Information

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, 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 Mictochondrial Genomes.

◇ **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).

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,  $\text{\LaTeX}$ , 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.