

CONTACT
INFORMATION

Dept. Computer Engineering
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RESEARCH INTERESTS

- ◇ Intelligent Robotics
- ◇ Statistical Machine Learning
- ◇ Deep Learning
- ◇ Cognitive Science
- ◇ Data Mining and Large Scale Data Analysis
- ◇ Game Theory, Mechanism Design
- ◇ Mathematical Optimization

EDUCATION

Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran

- ◇ B.Sc. Hardware Engineering, 2013 - 2018 (Expected)
(Ranked 2 among all Iranian Universities)
(Ranked 85 top Computer Science Universities in the World)
 - Cumulative Grade Average:
 - Major Related Courses: 18.8/20
 - Last 40 Units: 18.4/20
 - Total Passed 92 Units: 16.52/20

Shahid Madani High School, Tabriz, Iran

- ◇ Diploma in Physics and Mathematics Discipline 2008 - 2012
 - Cumulative Grade Average: 19.34/20
 - Affiliated with *the National Organization for the Development of Exceptional Talents (NODET)*

RELEVANT
EDUCATION AND
COURSEWORK

- ◇ Amirkabir University of Technology

- | | |
|-------------------------------------------------------------|--------------------------------------------|
| • Design of Algorithms: 17.5 | Audited |
| • Statistical Machine Learning (Graduate Level): TBA | • Principles of Database Design: 18 |
| • Stochastic Processes: 19.2 | • Database Design Lab: 19.8 |
| • Advanced Programming: 20 | • Research and Report Writing: 16.7 |
| • Software Engineering: 18 | • Engineering Economics: 20 |
| • Principles of Data Mining: TBA | • Operating System Design: 18.7 |
| • Machine Learning(Graduate Level): | • Operating System Design Lab: 20 |

- ◇ Online Courses

- | | |
|---------------------------------------------------------|--------------------------------|
| • Deep Learning for Self-Driving Cars (Watching) | <i>MIT OpenCourseWare</i> |
| • Machine Learning | <i>Stanford University</i> |
| • Neural Networks and Machine Learning | <i>University of Toronto</i> |
| • Mining Massive Datasets | <i>Stanford University</i> |
| • Introduction to Recommender Systems | <i>University of Minnesota</i> |

- **Algorithms I**
- **Game Theory**
- **Think Again How to Reason and Argue**

*Princeton University
Stanford University and UBC
Duke University*

HONORS AND AWARDS

- ◇ 3rd Place, Rescue Simulation League, Virtual Robot Competition, RoboCup 2016, Leipzig, Germany, As a member of **SOSVR** team
- ◇ First Place, **Tehran Startup Weekend**, Tehran, Iran, 2014
- ◇ Ranked in top 0.2% place among all applicants for the University Entrance Nationwide Exam (Approximately 350000 test-takers) in Math. and Eng., Iran, 2012
- ◇ Third Place, **Tournament of the Towns Math Competition**, Tabriz, Iran, 2011

TEACHING EXPERIENCE

- Amirkabir University of Technology**, Tehran, Iran
(sample graded material and student evaluations available upon request)
- ◇ **Teaching Assistant for Advanced Programming** *Spring 2017*
Prof. M. Noorhosseini
 - ◇ **Teaching Assistant for Introduction to Statistics and Probability** *Spring 2017*
Prof. M. Amirhaeri
 - ◇ **Teaching Assistant for Data Structures and Algorithm Design** *Fall 2016*
Prof. M. Dehghan
 - ◇ **Teaching Assistant for Advanced Programming** *Spring 2016*
Prof. M. Noorhosseini

NOTABLE PROJECTS

- ◇ **Research Projects**
 - **OpenVRI Framework** *Dec 2016 - Present*
OpenVRI is an open source framework and a research tool for Robotics AI algorithm development. It provides tools and High-level API for Experimenting Intelligent Robots, train & test Learning Models, and evaluating results in 3D simulated environment.
 - **LinkedIn Recommender System** *Sept 2016 - Present*
Designing and implementing a Recommender System to recommend similar users based on their skills and other various characteristics on LinkedIn.
 - **3D Human Pose Estimation from 2D Images for a Rescue Robot** *Nov 2016 - Present*
Implementing and evaluating 3D human pose estimation using 2D raw images subscribed from robot's camera sensor on a simulated rescue robot.
 - **Credit Card Transaction Fraud Detection** *Nov 2016*
Project done for Iran's National Data Mining contest. The goal was to classify credit card transaction as fraud or non-fraud.
 - **SOSVR Base Code** *June 2016*
Base code of SOSVR team for Virtual Robot Competition, including behaviour, human detection, navigation and bring-up packages. (Python, C++, ROS, Human Detection)
 - **Ice-Fire Challenge** *March 2016*
Design and Implementation of a multi-agent algorithm for AI Challenge held

at Sharif University of Technology, Tehran, Iran.(Java, Multi-Agent Algorithms, Artificial Intelligence)

◇ Academic Course Projects

- **Implementing and Evaluating a PGM for Classification of Illness** *Fall 2016*
(Python, Regression), *Statistical Machine Learning*
- **Implementing and Evaluating Generalized Autoregressive Conditional Heteroscedasticity Model to Predict Power Usage of Ontario State** *Fall 2016*
(Python, GARCH, Statistical Inference), *Statistical Machine Learning*
- **Implementing and Analysing Linear Regression on a Dataset of Student Grades** *Fall 2016*
(Python, Regression), *Statistical Machine Learning*
- **Face Recognition Using SVD(An Implementation of [this](#) paper)** *Fall 2016*
(Matlab, SVD, Linear Algebra), *Advanced Engineering Mathematics*
- **Image Compressor Using Low Rank Matrix Approximation** *Fall 2016*
(Matlab, Matrix Factorization, SVD), *Advanced Engineering Mathematics*
- **Designing and Implementing Database of an insurance company** *Spring 2016*
(Oracle Database), *Database Design Lab*
- **Designing and Implementing a chat room with NoSQL database** *Spring 2016*
(XML, JSON, NoSQL, Java), *Principles of Database Design*
- **Implementing Process Migration on xv6 Operating System** *Spring 2016*
(MySQL), *Principles of Database Design*
- **Motion Planner Using Dijkstra Algorithm** *Spring 2015*
(Java), *Dijkstra, A*, Algorithm Design*
- **Implementing a File Compressor Using Huffman Algorithm** *Fall 2014*
(BST tree, Insertion Sort) (Java), *Data Structures*
- **Implementing a Web Browser and Download Manager** *Spring 2014*
(Java), *Advanced Programming*
- **Implementing a Graphical Game With Multiplayer Support** *Spring 2014*
(Java), *Advanced Programming*
- **Assembler For C Language** *Fall 2013*
(C, Lexer ,Parser, Intermediate Code Generation), *Principles of Computer Programming*

RESEARCH
EXPERIENCE

- ◇ **Research Assistant at Cognitive Robotics Lab** *July 2015 - Present*
Computer Engineering Department, Amirkabir University of Technology.
Supervisor: Prof.Shiry
- ◇ **Member of SOSVR Robotic Team** *January 2015 - Present*
Vision, Navigation, SLAM and Behaviour

PUBLICATIONS

- ◇ M. TaherAhmadi, S. Azami, M. Javadi, S. Shiry. "OpenVRI, An Open-Source Virtual Robot Intelligence Framework". (to be submitted) In *Intelligent Robots and Systems, 2017. IROS 2017. IEEE/RSJ International Conference*. IEEE, 2017.
- ◇ M. TaherAhmadi, S. Azami, S. Shiry, "3D Human Pose Estimation from 2D Images for a Rescue Robot".(to be submitted), March 2017.
- ◇ M. TaherAhmadi, S. Azami, S. Shiry, "S.O.S VR Team Description Paper, RoboCup 2016 Rescue Virtual Robot League". *International RoboCup Competition*, July 2016.

([Link to Paper](#))

ACADEMIC TECHNICAL REPORTS	<ul style="list-style-type: none">• Sajad Azami, "Detecting Credit Card Transaction Fraud Using Gradient Boosting" - Technical Report for Iran's National Data Mining Contest. (\TeX)• Sajad Azami, "Implementing and Analysing Linear Regression on a Dataset" - Technical Report for Statistical Machine Learning Final Project. (\TeX)• Sajad Azami, "Implementing and Evaluating a PGM for Classification of Illness" - Technical Report for Statistical Machine Learning Final Project. (\TeX)• Sajad Azami, "Implementing and Evaluating a Parametric and a Non-Parametric model to Predict Power Usage of Ontario State" - Technical Report for Statistical Machine Learning Final Project. (\TeX)• Sajad Azami, Taher Ahmadi, "Face Recognition With Singular Value Decomposition" - Technical Report for Implementation of this Paper. (\TeX)• Sajad Azami, "Image Compression Using Low Rank Matrix Approximation" - Technical Report for Advanced Mathematics Final Project. (\TeX)• Sajad Azami, "Fraud Detection Using Game Theory and Data Science" - Technical Report for Research Method and Technical Report Writing course. (\TeX)• Sajad Azami, "Report for Project Implemented and Related Questions" - Technical Report for Project Done in Database Lab Course. (\TeX)	
WORK EXPERIENCE	<ul style="list-style-type: none">◇ Senior Android Developer at Golrang Industrial Group(GIG) <ul style="list-style-type: none">• Neesa Organizational Bulletin An enterprise generic newsletter for organizations, developed in Android and Django framework.• Daroo Client An enterprise Android application to be used by drugstores to order medicine online.◇ Android Developer at PANA Software Group	<i>Summer 2015</i> <i>Feb 2014 - Jul 2015</i>
LECTURES AND PRESENTATIONS	<ul style="list-style-type: none">◇ Guest Lecturer in 8th Linux Festival <i>Amirkabir University of Technology</i><ul style="list-style-type: none">• Python Workshop• Linux Basic Workshop◇ Android Workshop for Java Students(2 Sessions) <i>Amirkabir University of Technology</i>	<i>May 2016</i> <i>Spring 2016</i>
EXECUTIVE EXPERIENCE	<ul style="list-style-type: none">◇ Member of Technical Committee in 8th Linux Festival <i>Amirkabir University of Technology</i>	 <i>May 2016</i>

SKILLS

- ◇ **PROGRAMMING:** Java, Python, C, C++, Matlab
 - Familiar With: J2EE, XML, JSON
- ◇ **SCIENTIFIC TOOLS, PLATFORMS AND FRAMEWORKS:** ROS, Caffe, Theano, Scikit, Pandas, IPython, OpenCV, GNU Octave, Weka, Android
- ◇ **DATABASES:** MySQL, MongoDB, Oracle, Microsoft SQL Server
- ◇ **WEB LANGUAGES:** HTML, PHP, CSS, JavaScript
- ◇ **SCRIPTING:** Bash
- ◇ **OPERATING SYSTEM:** Linux
- ◇ **TYPESETTING:** \LaTeX , Vim

EXTRA-CURRICULAR ACTIVITIES

- ◇ Participating in AI and Data Mining Online Competitions.(Codes Are Available on My Personal [Github](#))
- ◇ Responsible for Sports Section of Faculty *2014 - 2016*
- ◇ Captain of Football and Futsal Team of Faculty *2014 - 2016*
- ◇ Writing for Pouyesh, CEIT students association magazine *March 2016*
- ◇ Playing [Setar](#), A Persian Musical Instrument *2012 - Present*
- ◇ Reading Philosophy and Psychology Novels and Books