

# Ali Mortazavi

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## CONTACT INFORMATION

Dept. of Computer Eng. & IT,  
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## EDUCATION

**Amirkabir University of Technology** (Tehran Polytechnic), Tehran, Iran  
B.Sc. Computer Software Engineering, 2013 – 2017  
CGPA: **Overall** 18.47 / 20 (3.78/4)  
**Selected Course** 19.33 / 20 (4/4)

## RESEARCH INTERESTS

- Algorithmic Game Theory
- Mechanism Design
- Statistical Machine Learning

## HONORS AND AWARDS

- **Ranked 3<sup>rd</sup>** (out of 100) in term of Cumulative GPA among students of computer engineering of 2013 Entrance 2017
- Awarded as Outstanding Student in Amirkabir University of Technology 2015-2017
- Awarded direct admission to M.Sc. program in **Artificial Intelligence** at *Amirkabir University of Technology* as Talented Undergraduate Student 2017
- **Ranked 19<sup>th</sup>** in the Final Stage in **National Scientific Olympiad** of Computer Engineering 2016
- Qualified in the Selection Exam of **National Scientific Olympiad** of Computer Engineering 2016  
**Qualified as 9<sup>th</sup>** among the students in all the Universities in the Tehran Region
- **Ranked 1<sup>st</sup>** in Mathematics Team Selection Exam 2015
- **Ranked Top 0.8%** In The Country-wide University Entrance Exam 2013

## RESEARCH EXPERIENCE

*Implementation and Evaluation of "Genetic" and "Simulated Annealing" Algorithms for Extended Travelling Salesman Problem*, B.Sc. Thesis, [\[code\]](#) [\[report\]](#)

Under the supervision of [Dr. Razazi](#) at Amirkabir University of Technology

In this project, we tested the performance of two different heuristic approaches to solve an NP-Complete Problem. This problem is an extended version of the Travelling Salesman Problem. Since our approach is heuristic, there is no guaranty to find a global optimum answer. Therefore, we needed some other exact approach for computing the global optimum. For this purpose, we reduced our problem to an Integer Linear Programming Instance. So in small graph samples, we could compare our results with the optimum solution and for the large graph samples, we just compared our two different methods with each other.

## ACADEMIC PROJECTS

**Image Denoising and Segmentation Using Markov Random Field** [\[code\]](#)[\[report\]](#)  
Optimizing Energy Function using Simulated Annealing, Comparing different Color Spaces results.

**Text Summarization** [\[code\]](#)[\[report\]](#)

Extracting important sentences as a summary using page rank algorithm and word2vec.

**Text Classification** [\[code\]](#)[\[report\]](#)

Using different metrics (mutual information, information gain, etc.) for extracting important words for document classification task.

TEACHING EXPERIENCE

- **Probability and Statistics**, Teaching Assistant  
Under Supervision of [Prof. Amirhaeri](#) ([haeri@aut.ac.ir](mailto:haeri@aut.ac.ir))spring 2018
- **Special Class for Olympiad Preparation**, Instructor  
Intro. To Theory of Computation, Algorithm Designspring 2017 and 2018
- **Algorithm Design**, Teaching Assistant  
Under Supervision of [Prof. Rahmati](#) ([zrahmati@aut.ac.ir](mailto:zrahmati@aut.ac.ir))spring 2017
- **Algorithm Design**, Teaching Assistant  
Under Supervision of [Prof. Mousavi](#) ([srm@aut.ac.ir](mailto:srm@aut.ac.ir))spring 2016

HIGHLIGHTED COURSES

• Probability and Statistics	20/20	• Data Structures	20/20
• Stochastic Processes	20/20	• Algorithm Design	20/20
• Data Mining	19/20	• Advanced Topics in Algorithms	20/20
• Artificial Intelligence	20/20	• Theory of Computation	20/20
• Probabilistic Graphical Models	17/20	• Discrete Mathematics	17.5/20
• Statistical Machine Learning	20/20		

ATTENDED CONFERENCES AND SEMINARS

- **Workshop on Data Science and Combinatorial Algorithms**April 2019  
An introduction to “mechanism design and differential privacy” by [Dr. Mahdian](#), “Clustering and stable instances” by [Prof. Salavatipour](#), and other talks.
- **Short course on Information Design**December 2018  
An introduction to information design by [Prof. Haghpanah](#)
- **Block Chain and Cryptocurrency**February 2018  
An introduction to Block Chain Mechanism and different Cryptocurrency systems. By [Prof. Hatami](#) and [Prof. Salavati](#)
- **Journal Club at IPM**August 2017 - October 2017  
Weekly seminars in Cognitive Science hosted by [Prof. Abbasian](#)
- **Workshop on Game Theory**February 2017  
An introduction by [Prof. Salavati](#) to Game Theory Concepts (Nash Equilibrium, Expected Pay off, Repeated Games, Auctions, etc.)

SKILLS

- **Theoretical Skills**  
Mathematics, Probability and Statistics, Algorithms
- **Technical Skills**  
Python, Java, C/C++

LANGUAGES

- **Persian**: Native
- **English**: TOEFL: [99](#) (Reading: 23, Listening: 28, Speaking: 23, Writing: 25)  
GRE General: [317](#) (Quantitative: 167, Verbal: 150, Writing: 3.0)