Ali Mortazavi

Contact Information

Dept. of Computer Eng. & IT,
Amirkabir University of Technology,
Hafez St., Tehran, Iran.

Email: ali_mortazavi@aut.ac.ir
Home: https://alimorty.github.io
Tel: (+98) 937 146-2838

Education

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

B.Sc. Computer Software Engineering, 2013 – 2017
CGPA: Overall **18.47 / 20 (3.78/4)** [Ranked **3rd**]
Selected Course **19.33 / 20 (4/4)**

Research Interests

- Statistical Machine Learning
- Optimization
- Sequential Prediction
- Mechanism Design in Game Theory

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.

Honors and Awards

- **Ranked 3rd** (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 19th** 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 9th among the students in all the Universities in the Tehran Region
- **Ranked 1st** in Mathematics Team Selection Exam 2015
- **Ranked Top 0.8%** In The Country-wide University Entrance Exam 2013

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

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
• Data Storage and Retrieval	20/20	• Engineering Mathematics	20/20

- Audited Statistical Machine Learning and Probabilistic Graphical Models

Attended Conferences and Seminars

- **Deep Learning Summer School at University of Tehran** — August 2018
  An introduction to Deep Learning and different research Areas.
- **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** — Augest 2017 - October 2017
  A 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 (NumPy, Scikit, NLTK), Java, C/C++

Talks

- **A brief summary to The Theory of Computation** — May 2018
- **What is Natural Language Processing** — May 2017
- **Can computers have emotion?** — June 2016

Languages

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

Other Activities

- **Piano** — 2018
  Recently I have started to learn piano.
- **Citywide Amirkabir Programming Contest Staff** — 2016
  Member of problem designing team.
- **Basketball Team Member** — 2015
  Ranked 4^{th} in the Amirkabir University of Technology Basketball Cup with the Computer Engineering Team