

Research Interests

- Algorithm design and Theoretical Computer Science.
- Graph Algorithms.
- Theory of distributed computing.
- Theory of Machine learning.

Education

- Sep 2019 – **M.Sc. in Computer Science**,
Feb 2020 *Sharif University of Technology, Tehran, Iran.*
- 2015–2019 **B.Sc. in Computer Engineering (Major in Software)**,
Isfahan University of Technology, Isfahan, Iran.
GPA: 3.85/4 (ranked 1st among all students)
- 2011–2015 **Diploma in Physics and Mathematics Discipline**,
Khorram, Isfahan, Iran.
GPA: 4/4

Research Experience

- Feb 2020 – **Scientific Intern, Max Planck Institute for Informatics.**
March 2020
 - Supervisor: Dr. Christoph Lenzen
 - Subject : Stable Marriage Problem
 - Limiting the stable marriage problem reduces its complexity. One of the limitations is the k-list model, which distributes men/women (uniformly/non-uniformly) in k groups so that men/women have the same preference lists in each group. We are working on an algorithm that can construct the preference lists and enumerate the number of stable matchings depend on a poset.
- July **Research.**
2018–Sep
 - Supervisor: Dr. Farzad Parvaresh
 - Subject : Straggler Mitigation in Distributed Matrix Multiplication
 - Finding the optimal number of workers depend on the size of the input matrices to decrease the message passing load and consequently have better multiplication complexity.
- Aug 2019 **Scientific Intern, Max Planck Institute for Informatics.**
 - Supervisor: Dr. Christoph Lenzen
 - Subject : Gray Code addition
 - To decrease the addition circuit depth, I am finding a parallel way to add two gray codes instead of adding them sequentially bit by bit. Also, finding a way to add gray codes directly rather than convert them to boolean numbers, adding them in a binary system, and finally convert the result to gray code.

Notable Projects

- Summer 2018 **Users' behavioral detection.**
 - Supervisor: Dr. Mohammad Hossein Manshaei
 - We have designed and implemented a distributed recommender system using spark in order to optimizing the search engine results based on the past user behaviors.
- Spring 2018 **Facial Expression Recognition.**
 - Supervisor: Dr. Mohammad Hossein Manshaei
 - We have tested different types of convolutional neural networks in order to achieve the best performance in detecting the face's expression of the person in front of the camera.

Honors and Awards

- Spring 2019 **Ranked 19th in Iranian University entrance exam (Konkur)** .
◦ Among 8000 participants
- Winter 2017 **ACM ICPC**.
◦ Ranked **23rd** Place in **19th** ACM-ICPC West Asia Regionals(Tehran Site)
- Spring 2019 **Rank in university**.
◦ Ranked **1st** among 70 students in Computer Engineering (Isfahan University of Technology)
- 2013 **Math Tournament**.
◦ Ranked in **Top 30** Iranian teams in the Tournament of Towns (High School)

Work Experience

- 2015 - 2019 **ACM Student Membership**.
- 2017 - 2018 **Student Scientific Association Membership** , *Isfahan University of Technology*.
Teaching Assistant , *Isfahan University of Technology*.
- Spring 2019 ◦ Parallel Processing (Graduate Course)
Spring 2018 ◦ Parallel Processing (Graduate Course)
Spring 2018 ◦ Design and Analysis of Algorithms
- Spring 2018 , **Introductory Workshop on Parallel Programming**.
Spring 2019 ◦ Tutor for Graduate Students (Isfahan University of Technology)
- Tutor**.
- 2018 - 2019 ◦ English
2017 - 2018 ◦ Math

Relevant Courses

Data Structures(19.75/20)	Graph Theory(17/20)
Advanced Programming (18.3/20)	Compiler Design(18.76/20)
Numerical Calculations(20/20)	Operating Systems(19.1/20)
Theory of Formal Languages(19.1/20)	Applied Linear Algebra(20/20)
Design and Analysis of Algorithms(19.75/20)	Engineering Statistics and Probability(18.75/20)
Machine Learning (Audit)	Artificial Intelligence(19/20)
Approximation Algorithm(Graduate)(Audit)	Cryptography(17/20)
Topics in Theory of Computation(Graduate)(16/20)	Matrix Computations(Graduate)(19/20)

Skills

Programming Languages	C/C++, Python, Java
Parallel Programming	CUDA, OpenMP, MPI(mpi4py)
Mathematical Computing	MATLAB
Machine Learning Libraries	scikit learn, Tensorflow, keras
Operating Systems	Linux (fluent in Ubuntu), Microsoft Windows
Other Tools	Spark, SQL server, PostgreSQL