SHAYAN PARDIS

Computer Science Undergraduate Student at MIT

🌐 shayan-p.github.io ⬡ Shayan-P in shayan-pardis @ shayanp@mit.edu

EDUCATION

Bachelor of Computer Science and Engineering

MIT (transfer)   GPA: 5.0/5.0

📅 Sep 2022 – May 2025   📍 Cambridge, Massachusetts

Related Courses:
- Analysis and Design of Algorithms
- Introduction to Inference
- Computation Structures
- Software Construction

Sharif University of Technology   GPA: 19.51/20

📅 Oct 2020 – June 2022   📍 Tehran, Iran

Related Courses:
- Engineering Probability and Statistics
- Programming Language Design
- Artificial Intelligence
- Advanced Programming

WORK EXPERIENCE

Google Summer of Code Contributor

Julia Language Organization   CUDA.jl   Julia

📅 June 2023 – Sep 2023   📍 Remote

Developed GPU support (CUDA) for QuantumClifford.jl, a Julia package designed for Quantum Stabilizer circuits (details).

Robotics Research Experience

MIT Biomimetics Lab (led by Sangbae Kim)   Matlab   C++

📅 Feb 2023 – now   📍 Cambridge, Massachusetts

Significantly improved the throughput (4x) of the Humanoid Robot's QP-based controller by parallelizing the computation.

Geometric Algorithm Design Internship

SIMCON   CGAL   C++

📅 Sep 2021 – March 2022   📍 Wuerselen, Germany

Designed and implemented an algorithm converting 3D Mesh into simplified skeleton Graph with substantial accuracy improvement.

Data Science Internship

Carriot   Elastic-Search   Scikit-Learn   Python

📅 July 2021 – Sep 2021   📍 Tehran, Iran

Designed and developed a model to parse addresses and find the corresponding locations with OSM (geocoding problem). Tuned Elastic Search engine to store and retrieve the OSM data.

Web Developer (Part-Time)

Abarkelas   JS (Nuxt   Python (Django)

📅 Oct 2020 – June 2021   📍 Tehran, Iran

Developed both backend and frontend using Django and NuxtJs. Set up Prometheus and Grafana for monitoring. Turned the website to PWA (Progressive Web Application).

ACHIEVEMENTS

🏆 **ICPC 2021 World Finalist**
1st place regional ACM-ICPC team, advanced to the World Finals

🏆 **Gold Medal. IOI 2020**
Ranked 10th in 32th International Olympiad in Informatics, Singapore

🏆 **Gold Medal. INOI 2019**
Ranked 1st in Iran National Olympiad in Informatics

🏆 **Silver Medal. APIO 2020**
Ranked 24th in Asia-Pacific Informatics Olympiad 2020, Indonesia

PROJECTS

⬡ FaceExplore

📅 June 2023 – Aug 2023   React   Python

Created FaceExplore, a face search engine utilizing MTCNN, Resnet, and Clustering for face detection in a large image gallery with unsupervised learning techniques. Developed a website using React, Flask, Nginx, and Docker for the user interface.

⬡ Sharif AI Challenge

📅 March 2021 - May 2021   Python

Developed (as a team) an AI agent for a distributed game that ranked 4th in the competition. Used Huffman-code for cost-efficient communication and A* algorithm for shortest path detection over a not-fully-explored map.

⬡ Interactive Music System Project

📅 Sep 2022 - Dec 2022   Python

Developed (as a team) a sandbox game inspired by the physics of light that allows players to generate creative music.

⬡ Simple Python Interpreter

📅 March 2022   Racket

Developed (as a team) a simplified Python interpreter with Racket. I added support for lazy evaluation and static type-checking.

⬡ AlgoBase

📅 2021 – 2022   C++

The collection of Algorithms that my team implemented for the ICPC competition.

TEACHING POSITIONS

INOI Algorithm Course Coordinator
Iranian National Olympiad in Informatics Summer Camp

📅 July 2021 – Aug 2021   📍 Tehran, Iran

Organized and invited guest lecturers while also serving as a course instructor. Member of the scientific committee and designed 3 out of 9 questions for the final exams.

LA: Natural Language and Computation (6.S051)
Professor Robert Berwick

📅 Sep 2022 – Dec 2022   📍 Cambridge, Massachusetts

Revised and created new lab practices covering the topics: Segmentation, Parsers (CKY, Earley), Semantic Parsing with Lambda Calculus, and Grammar Inference (inside-outside algorithm).

REFERENCES

Available Upon Request

VOLUNTEERING

Website for QML seminar

📅 Feb 2022   📍 Tehran, Iran

Developed a website for a seminar in Quantum Machine Learning using React, Docker, and Nginx. Used Material-UI for design.

Graph Theory Book

📅 2019 – 2020   📍 Tehran, Iran

Started and Contributed in writing an Online Graph Theory book that helps many students learn Graph Theory in an algorithmic approach. The book is written in Persian.