

# Kasra Kashani

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[Linkedin](#) | [Github](#)

## Education

<b>University of Tehran</b> , BS in Computer Engineering	Sept 2022 – Now
• GPA: 18.77/20 (3.75/4)	
<b>Salam Tajrish Highschool</b> , Diploma in Mathematics and Physics	Sept 2019 – Sept 2022
• GPA: 19.61/20 (3.92/4)	

## Research Interests

Artificial Intelligence  
NLP

Machine Learning  
Data Science

Automata and Language Theory  
Compiler Designing

## Honors and Awards

- **TOP 10% among 110 Computer Engineering B.Sc. students**  
Member of Elite Students, University of Tehran
- **TOP 100 among 145,000 participants in the National University Entrance Exam**  
Known as Konkur of Mathematics and Physics, Sanjesh Org

## Relevant Courses

<b>Data Science</b> , Instructor: Dr. Bahrak & Dr. Yaghoobzadeh	In Progress
<b>Compiler Designing and Programming Languages</b> , Instructor: Dr. Tavassoli	In Progress
<b>Artificial Intelligence</b> , Grade: 19/20, Instructor: Dr. Fadayi & Dr. Yaghoobzadeh	Fall 2024
<b>Computer Aided Design</b> , Grade: 20/20, Instructor: Dr. Modarresi	Fall 2024
<b>Algorithm Design</b> , Grade: 19.4/20, Instructor: Dr. Asadpoor	Spring 2024
<b>Formal Language and Automata Theory</b> , Grade: 18.2/20, Instructor: Dr. Hojjat	Spring 2024
<b>Computer Architecture</b> , Grade: 19.5/20, Instructor: Dr. Safari	Spring 2024
<b>Data Structures and Algorithms</b> , Grade: 20/20, Instructor: Dr. Faili & Dr. Amiri	Fall 2023
<b>Engineering Probability and Statistics</b> , Grade: 19.8/20, Instructor: Dr. Tavassolipour	Fall 2023
<b>Advanced Programming</b> , Grade: 18.2/20, Instructor: Dr. Khosravi	Spring 2023
<b>Introduction to Computing Systems and Programming</b> , Grade: 20/20, Instructor: Dr. Hashemi	Fall 2022

## Teaching Experiences

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### Computer Architecture

Instructor: Dr. Saeed Safari

- Teaching Assistant: Homework, quiz and computer assignment grader

Fall 2024 – Spring 2025  
*University of Tehran*

### Formal Language and Automata Theory

Instructor: Dr. Hosein Hojjat

- Teaching Assistant: Homework designer and grader

Fall 2024 – Spring 2025  
*University of Tehran*

### Introduction to Computing Systems and Programming

Instructor: Dr. Mahmoud Reza Hashemi

- Teaching Assistant: Laboratory TA, Final exam grader

Fall 2024  
*University of Tehran*

## Skills

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### Programming

- **Advanced:** Python, C++, C, Java
- **Intermediate:** VerilogHDL, SystemVerilog, LaTeX
- **Beginner:** SQL, Assembly, HTML, CSS

### Tools

- Quartus, Multisim, Modelsim, Vivado, Linux, Git, FPGA boards, Jupyter Notebook, Antlr, Tableau, PowerBI, Kafka, Apache Spark, Docker, Kubernetes, Spring, MySQL, MongoDB, Star UML, Matlab, Word, PowerPoint, Excel

### Libraries

- PyTorch, TensorFlow, Scikit-Learn, Pandas, Numpy, Matplotlib, Seaborn, SciPY, PySpark, PyMongo, Selenium

### Interpersonal Skills

- Leadership, Teamwork, Problem-solving, Social skills, Critical thinking, Time management, Fast learning

## Notable Projects

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### Compiler Designing for a new language CPY

Implementing the frontend of a compiler for a C-Python-like language using Java. It includes a full-featured Abstract Syntax Tree (AST), grammar and parsing modules, semantic analysis via visitor pattern, and a robust symbol table implementation.

- Language: Java

### Fake News Detection

This project implements a Fake News Detection system using a Python-based data pipeline. It includes preprocessing, feature engineering, and classification to identify misinformation.

- Language: Python

### AI-Powered Connect4 Game with Minimax Algorithm

Designed an AI-driven Connect4 game using the Minimax algorithm with alpha-beta pruning and a customizable difficulty. Features a Pygame interface for an engaging user experience.

- Language: Python

### Genetic Image Reconstruction

Developed a program that recreates images using genetic algorithms with mutation, crossover, and fitness evaluation for image refinement.

- Language: Python

### **News Subject Clustering**

An unsupervised clustering project using sentence embeddings from a pretrained transformer model and classic clustering techniques and then group news texts based on semantic similarity, enabling automatic categorization and exploration of textual datasets.

- Language: Python

### **Cancer Patient Survival Prediction Classification ML**

Developed a machine learning pipeline to predict cancer patient survival status using clinical, demographic, and treatment data. The goal is to classify each patient as either Alive (1) or Deceased (0).

- Language: Python

### **Bike Rental Prediction Regression ML**

Built a supervised machine learning regression model to predict the number of daily bike rentals based on weather, seasonal, and calendar-related features.

- Language: Python

### **Predict 2022 Fifa World Cup using MLP DL**

This project trains a Multi-Layer Perceptron (MLP) model to predict the outcomes of football matches during the road to the Qatar 2022 FIFA World Cup and the tournament itself. The model is trained on qualifiers and used to simulate the full tournament.

- Language: Python

### **Flower Species Image Classification using CNN DL**

Focused on classifying flower species using Convolutional Neural Networks (CNNs). Two key approaches were used: training a custom VGG-style CNN from scratch, and fine-tuning a pretrained ResNet50. The results of both were compared using various performance metrics.

- Language: Python

### **Forecast Future Bitcoin Prices using RNN DL**

Focused on time series forecasting of Bitcoin prices using a Recurrent Neural Network (RNN). The project walks through EDA, feature engineering, RNN modeling, and performance evaluation. An LSTM variant is also optionally implemented for improved performance.

- Language: Python

### **Hokm Game**

Implementing a complete 4-player version of the traditional Persian card game Hokm. Players take turns playing cards according to official rules, and teams compete to win hands and ultimately the game.

- Language: C

### **UT2T Messenger**

A terminal-based messaging application written in C that allows users to sign up, log in, and interact with posts through a simplified social interface. It mimics the structure of a microblogging service with essential features like posting, liking, and managing content.

- Language: C

### **Football Fantasy**

A simulation of a Premier League Fantasy Football game. It allows users to manage fantasy teams, simulate matchweeks, and track scores and player performances using real-world data.

- Language: C++

## **Languages**

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**English:** Full professional proficiency

**Persian:** Native