

# Hosein Mirhoseini

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## Experience

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**Machine Learning and Software Engineer** *NEVISA* 2023 – Present

- Designed and implemented a prompt-based search system leveraging OpenAI API for efficient information retrieval.
- Built personalized avatar bots tailored for diverse businesses using LLMs and Retrieval-Augmented Generation (RAG).
- Developed an automated pipeline to generate 3D UV maps from images using advanced computer vision techniques with OpenCV.
- Conducted accurate clothing segmentation using Convolutional Neural Networks (CNN).
- Designed and deployed secure, scalable APIs using FastAPI and NestJS, ensuring high reliability.

**Software Engineer** *Adak* 2021 – 2023

- Engineered robust databases using PostgreSQL and MongoDB to support high-performance applications.
- Spearheaded front-end development with React and NextJS, enhancing user interfaces and experience.
- Developed back-end services with NestJS, ensuring seamless integration with front-end systems.
- Authored comprehensive software documentation tailored to end-user requirements, improving usability.

**Teaching and Research Assistant** *Shiraz University* 2021 – 2023

- Designed/evaluated course projects, held exercise sessions, and guided students on assignments.
- Worked on the paper An overview of Quantum inspired Metaheuristic Algorithm, published in a conference

## Education

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**Politecnico Di Milano** 2024 - Now

*M.Sc. in Computer Science and Engineering – GPA: 29.4/30*

**Shiraz University** 2019 - 2023

*B.Sc. in Computer Engineering – GPA: 3.6/4*

## Key Skills

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**Languages:** Python, C++, TypeScript, JavaScript, Java

**AI and Data Science:** PyTorch, SkLearn, Pandas, HuggingFace, LangChain, OpenAI

**Development:** FASTAPI, NestJS, NextJS, PostgreSQL, MongoDB, Git

**Deployment:** AWS, Azure, Docker

**Technical:** LLMs, RAG, Computer Vision, Data Analysis

## Achievements and Certificates

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**Winner of LLM Agents MOOC Hackathon**, *University of California, Berkeley*

**Full Scholarship**, *B.Sc. Shiraz University*

**Member of Scientific Association of Computer Engineering**, *Shiraz University*

**Ranked 5th in the Graduation Class**, *Shiraz University, 2019 entrance*

**1st Team in Data Challenge Competition**, *Alkemy & PMDS*

**3rd Team in Machine Learning Competition**, *Oracle & PMDS*

**Natural Language Processing Specialization**, *Coursera, DeepLearning.AI*

**Machine learning**, *Coursera, Andrew Ng*

## Projects

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### **hAIre**

- hAIre streamlines hiring with CV screening, interviews, follow-up questions, and candidate evaluation using STOTA TTS, STT, and LLMs.

### **Arusense**

[link](#) 

- Developed back-end systems and implemented avatar bots for Arusense, a Metaverse social media platform, using LLMs and RAG.

### **Cice**

[link](#) 

- Designed a prompt-based search feature, an image-to-3D UV mapping model, and a body measurement model for Cice, a 3D online clothing shop, leveraging LLMs, deep learning, and machine learning algorithms.

### **Suicide Detection**

[link](#) 

- Detect potential suicidal thoughts from user's text in any language using machine learning algorithm.

### **Smart Doctor**

[link](#) 

- Detect patient illness based on symptoms and suggestion them the proper doctor using machine learning algorithms

### **Football Players Death**

[link](#) 

- Conducted exploratory data analysis on football player deaths during matches, utilizing advanced data analysis and visualization techniques to uncover patterns and insights.