

Maryam Yazdi

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📍 Iran

RESEARCH INTERESTS

- Trustworthy Machine Learning
- Knowledge Extraction
- Inference Optimization

EDUCATION

Bachelor of Science, Computer Software Engineering

Sep. 2018 - May 2023

GPA: 3.7 / 4

University of Isfahan

Isfahan, Iran

EXPERIENCE

Data Scientist

May 2023 - June 2024

DataCoLab

London, UK (Remote)

- Developed a cohesive Reasoning and Acting platform with over 10 LLM-powered **AI agents** and dynamic function calling capabilities to satisfy complex analytical queries.
- **Fine-tuned and deployed** open-source models (llama, mistral, phi-3, etc.) to substitute OpenAI API-based inference pipelines, reducing the company's OpenAI API costs by 30% and enhancing system autonomy.
- Utilized statistical analysis and machine learning to deliver **data-driven insights** that addressed enterprise-level business challenges and supported stakeholders in strategic decision-making.

Teaching Assistant

Sep. 2021 - May 2023

University of Isfahan

Isfahan, Iran

- Provided support for Discrete Mathematics and Data Mining courses.
- Conducted detailed grading and provided personalized feedback for assignments and exams.
- Held weekly sessions to assist students with course material and answer questions about assignments.

SKILLS

- **Technologies & Frameworks:** Python, C++, SQL, Pytorch, Transformers, Scikit-learn, Pandas, NumPy, PEFT, FastAPI, Linux, Git, LaTeX
- **English Proficiency:** Fluent - TOEFL iBT Total Score 106 (R: 28, L: 27, S: 27, W: 24)

PROJECTS

Retrieval-Augmented Generation (RAG) QA Bot ([GitHub](#))

Aug. 2024

- Developed customized vector store and hybrid retrieving strategies with efficient embeddings to achieve an optimized RAG pipeline, improving response precision by 80% for domain-specific questions.
- Conducted systematic literature review on embedding optimization and retrieval efficiency to achieve a robust agent.
- Technologies: FAISS, LangChain, Ollama, Flask, Docker, Streamlit, Poetry

Machine Learning-Aided Scheduling for Real-Time Systems

June 2024

- Developed a simulation of real-world industrial environments using the SimPy framework in Python.
- Evaluated advanced scheduling algorithms for task assignment in real-time or resource-constrained environments.
- Conducted a comparative study of classical heuristics (e.g., EDF, RR) vs. AI-driven schedulers such as reinforcement learning and genetic algorithms to enhance dynamic and adaptive scheduling in the simulation environment.

Context-Aware Machine Translation for Colloquial English Subtitles

April 2023

- Collected a new dataset of 4,000 colloquial English-Persian subtitle pairs by scrapping the subtitle websites.
- Fine-tuned mT5 model to improve idiomatic and colloquial translations as a challenge for low-resource languages, achieving a +0.3 gain in BLEURT score over the baseline models.