Maryam Yazdi

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RESEARCH INTERESTS

- Trustworthy Machine Learning
- Data-driven Security
- Cyber-physical Systems Security

EDUCATION

Bachelor of Science, Computer Engineering Sep. 2018 - May 2023

University of Isfahan *Isfahan, Iran*

EXPERIENCE

Data Scientist May 2023 - June 2024

DataCoLab *London, UK (Remote)*

- Developed a coherent platform consisting of over 10 LLM-powered **AI agents** to assist the end-user in complex analytical tasks, able to operate in both autonomous and collaborative manner on structured and unstructured data.
- **Fine-tuned** and deployed open-source language models to efficiently replace GPT-based inference pipelines, reducing the company's OpenAI API costs by 30%, and enhancing system scalability.
- Conducted **deep-dive analysis** of specific datasets to develop innovative and data-driven solutions tailored to project requirements.

Teaching Assistant Sep. 2021 - May 2023

University of Isfahan *Isfahan, Iran*

- Provided support for Principles of Programming and Discrete Mathematics 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, Docker, Git, LaTeX
- **English Proficiency**: TOEFL iBT Total Score 106 (R: 28, L: 27, S: 27, W: 24)

PROJECTS

RAG-based Question Answering Agent (Github) July 2024

- Developed a custom Retrieval-Augmented Generation (RAG) framework with specific retriever and vector store which enhanced LLM's precision in answering questions by 80%.
- Conducted systematic evaluations of existing literature on optimizing retriever efficiency, achieving a robust agent.

Machine Learning Based Scheduling System April 2024

- Implemented advanced scheduling algorithms from scratch in Python, building a comprehensive scheduling system.
- Optimized dynamic scheduling by incorporating different AI techniques like reinforcement learning and genetic algorithms.

Context-Aware Machine Translation for Movies Subtitles May 2023

Advisor: Dr. Reza Ramezani

• Enhanced limited training data by integrating a dataset of 3000 English-Persian colloquial translations from subtitles.
• Fine-tuned language models to achieve fluent colloquial Persian translations for movie subtitles, emphasizing on idioms and slang as a challenge in low-resource language translation.