HOSSEIN GOLMOHAMMADI

COMPUTER SCIENCE STUDENT

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Website

HIGHLIGHTS

- Fourth-year CS student specializing in ML, ranked in top 10% of class
- 4+ years Python expertise, proficient in cloud deployment and ML frameworks
- Strong ML theory foundation with hands-on experience in predictive modeling
- Aspiring AI researcher, passionate about advancing machine learning and data science

EDUCATION

Bachelor of Science (BS) of Computer Science

University of Isfahan
2020 - 2024 (Ongoing)

- Last 2 years GPA (62 credits): 3.47/4.0
- Specialization courses GPA (43 credits): 3.58/4
- Ranked in the **top 10%** of class

RESEARCH INTERESTS

- **Machine Learning**
- **Natural Language Processing (NLP)**
- **Information Retrieval**
- **Computer Vision**
- **Adversarial Machine Learning**
- **Machine Learning Operations (MLOps)**

SELECTED COURSES

- Special Topics in Computer Science (Machine Learning/Deep Learning): A+ (19/20)
- Artificial Intelligence: A+ (18.5/20)
- Data Structures and Algorithms: A (17.8/20)
- Nonlinear Optimization: A (17.8/20)
- Linear Optimization: A (17/20)
- Algorithm Design: A (16.1/20)

ACADEMIC EXPERIENCE

Teaching Assistant at the University of Isfahan

Algorithms and Data Structures
Fall 2023

- Developed course materials and designed challenging coding problems
- Graded exams and assignments, providing constructive feedback
- Collaborated with faculty to enhance course content and student learning outcomes
- Demonstrated strong organizational, communication, and problem-solving skills

SKILLS

Programming Languages: Python, C++
Databases: MySQL, PostgreSQL, SQL Server
Machine Learning: Scikit-learn, TensorFlow, PyTorch, NumPy, Pandas,
Web Development: FastAPI, Django, Streamlit
Cloud & Deployment: AWS, Docker
Data Collection: Selenium, BeautifulSoup, Scrapy
NLP: NLTK, spaCy, LlamaIndex
Development Tools: Git, Linux

PROJECTS

RAG System with Embedded Knowledge Base (github)

- Developed RAG system from scratch using PDF-based knowledge base
- Implemented embedding pipeline with **NLTK**, **spaCy**, and **sentence-transformers**
- Integrated **LLM** with custom retrieval for context-aware responses
- Designed user interface using **Streamlit** for easy interaction

RAG API with Dynamic Document Processing (github)

- Developed RAG API using **FastAPI** for efficient text-based question answering
- Integrated **LlamaIndex** for indexing and **LlamaParse** for flexible text preprocessing
- Deployed containerized service using **Docker** for scalability
- Created intuitive web UI with **Streamlit** for seamless user interaction

Stock Market Prediction using LSTM (github)

- Developed **LSTM**-based model for stock price prediction using **PyTorch**
- Implemented custom data preprocessing pipeline with **sklearn** for feature scaling and sequencing

Local LLM-Powered Chatbot with Web Interface (github)

- Developed **chatbot** using **Streamlit** for UI and **Ollama** for local LLM integration
- Implemented API calls to local Ollama server for model interactions
- Designed user-friendly chat interface with message history management

Search-Augmented LLM Query System (github)

- Implemented Retrieval-Augmented Generation (RAG) using **Whoosh** for indexing and search
- Integrated **LLM** (e.g., Groq) for enhanced question-answering capabilities
- Developed user interface with **Streamlit** for easy interaction
- Containerized the application using **Docker** for seamless deployment

Music Streaming Service API (github**)**

- Designed a comprehensive database system using SQL and database design principles
- Developed a robust and efficient API using **FastAPI** and **Python**
- Implemented RESTful architecture and API best practices

Reinforcement-Learning-search (github**)**

- Implemented **Q-learning** algorithm for optimal path finding in Snake and Ladders game
- Developed **A*** search algorithm as an alternative approach for comparison

Chronic Kidney Disease Prediction Model (github**)**

- Implemented advanced preprocessing techniques (**Isolation Forest**, **KNNImputer**, feature encoding)
- Optimized models using **GridSearchCV**, **RandomizedSearchCV**, and **BayesSearchCV**
- Developed and compared 7 ML models including **Linear/Logistic Regression**, **Random Forest**, **XGBoost**
- Achieved 99% accuracy with XGBoost and Random Forest, ensuring good generalization

COURSES & CERTIFICATES

- Supervised Machine Learning: Regression and ClassificationSupervised (**credential**)
- Advanced Learning AlgorithmsAdvanced Learning Algorithms (**credential)**
- Unsupervised Learning, Recommenders, Reinforcement Learning (**credential)**
- Coursera Deep Learning Specialization
- Pytopia Statistics, Data Processing, Visualization, and Machine Learning
- Pytopia Python Programming
- ZTM PyTorch for Depp Learning
- Docker & Kubernetes: The Practical Guide

EXTRACURRICULAR ACTIVITIES

Algorithm Section Head, 'Psycity' Nationwide Coding Contest *Summer 2023 - Winter 2024"*

- Designed algorithmic questions for the programming section
- Managed a team of problem setters
- Oversaw both on-site and online participation for approximately 100 contestants
- Actively involved in competition management during the 3-day event"

Computer Science Club *University of Isfahan*
2020 - 2024 (Ongoing)

- Regularly attended meetings and workshops
- Contributed to fostering a community of tech enthusiasts on campus

EXAM SCORES

IELTS: Scheduled for September