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Isfahan-Iran

WIP...

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)

- Overall GPA: 3.18/4.0
- Last 2 years GPA (62 credits): 3.47/4.0
- Ranked in the **top 10%** of class

RESEARCH INTERESTS

- Machine Learning
- Natural Language Processing (NLP)
- Information Retrieval
- Adversarial Machine Learning
- Search Engines
- 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

Development Tools: Git, Linux

PROJECTS

RAG System with Embedded Knowledge Base

- Developed **RAG** system using PDF-based knowledge base with heavy preprocessing
- Implemented embedding pipeline using **NLTK**, **spaCy**, and **sentence-transformers**
- Integrated **LLM** with custom retrieval mechanism for context-aware responses
- Optimized performance using **flash-attn** and bitsandbytes for **model quantization**

RAG System with Search Engine Integration

- 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

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

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

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

Liver Cirrhosis Prediction Model ([github](#))

- Developed model to predict patient status (Alive, Dead, Transplanted) using clinical data
- Implemented advanced EDA with **Pandas Profiling**, **SMOTE** for imbalanced data
- Created custom pipelines for preprocessing, outlier removal (**IQR**, **Isolation Forest**)
- Optimized **XGBoost** using **Bayesian optimization**; achieved 91% accuracy, 0.90 F1-score

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 Deep 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