Abdul Rafay Ashfaq

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Islamabad, Pakistan

EXPERIENCE

Machine Learning Intern *Jun 2025 – Jul 2025*
DevelopersHub Corporation *Remote*

- Developed RAG-based conversational AI agents for medical and mental health diagnostics.
- Fine-tuned LLMs with HuggingFace Trainer API and constructed Python scripts for real-time user interaction.
- Executed end-to-end data pipelines, including Exploratory Data Analysis (EDA) and data cleaning, on clinical datasets to identify key features for heart disease classification.
- Trained regression models for house/stock price forecasting, implementing time-series analysis on preprocessed metrics.

Web Developer Intern *Jun 2025 – Aug 2025*
Premier NX *Lahore, Pakistan | On-site*

- Architected responsive, user-friendly frontend interfaces for an academic portal utilising PHP Laravel.
- Implemented full-stack CRUD functionality, ensuring real-time data synchronisation with a MySQL backend.

Python Developer Intern *May 2025 – Jul 2025*
Softsincs *Remote*

- Completed comprehensive data science training, mastering Pandas and NumPy for data preprocessing.

EDUCATION

Bachelor of Science (B.S.) in **Computer Science** *Aug 2027*
FAST National University of Computer & Emerging Sciences *Islamabad, Pakistan*

- Coursework: Data Structures, Database Systems, Design & Analysis of Algorithms, Object-Oriented Programming, Computer Networks, Artificial Intelligence, Web Programming, Software Design & Analysis, Information Security

PROJECTS

Game-Playing Agent for TORCS

- Automated a car racing simulation using PyTorch and scikit-learn, implementing a Random Forest model to achieve autonomous driving based on telemetric data.
- Trained the model on sensor-based input to optimise speed and steering in dynamic racing environments.
- Implemented real-time decision-making and performance evaluation to enhance accuracy and responsiveness.

Ultimate Tic-Tac-Toe

- Developed a player vs. AI Tic-Tac-Toe game in Python, incorporating the Minimax Algorithm with Alpha-Beta Pruning for efficient decision-making.
- Applied advanced Constraint Satisfaction Problem (CSP) techniques to enforce game rules and logic.
- Refined user experience through an interactive Tkinter GUI, enhancing gameplay realism and competitive challenge.

XONIX

- Programmed a GUI-based arcade game with single-player and two-player modes utilising C++ and SFML.
- Implemented algorithms for player movement, dynamic territory capturing, and enemy AI in single-player mode.
- Optimised user experience with responsive controls, real-time scoring, and engaging visual feedback.

Hospital Management System

- Built a full-stack HMS using React for the frontend and Node.js with MongoDB for the backend.
- Developed comprehensive modules for patient management, appointments, and medical records.
- Implemented secure user authentication and role-based access control using JSON Web Tokens (JWT).

Personal Website

- Designed a personal web portfolio with HTML, CSS, and JavaScript. Hosted via GitHub Pages.
- Integrated external pull requests to enhance the website's content and cross-device compatibility.

SKILLS

Web Development Tools: HTML, CSS, JavaScript, React, Node.js, MongoDB, PHP, Laravel
Game Development Tools: Unity, SFML (Simple & Fast Multimedia Library)
Programming Languages: C++, Python, Java, SQL (MySQL), x86 Assembly

CERTIFICATIONS

Google AI Essentials Specialisation – Google • Introduction to Artificial Intelligence – University of Illinois Urbana-Champaign • Introduction to Generative AI for Developers with Copilot – Microsoft