Abdul Rafay Ahmed Khan

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Education

BACHELOR OF COMPUTER SCIENCES (CS) | 2020 - 2024 | LAHORE UNIVERSITY OF MANAGEMENT SCIENCES (LUMS) | CGPA: 3.65

Key Courses: Algorithms, Databases, Operating Systems, Data Science, Introduction to Blockchain, Intro to Artificial Intelligence, Data Structures, Network-Centric Computing, Fundamentals of Computer Systems, Discrete Mathematics, Introduction to Programming, Calculus II, Linear Algebra.

A-LEVELS | 2018-2020 | NIXOR COLLEGE, KARACHI| GRADES: A*s & As

Courses: Mechanics, Mathematics, Physics, Chemistry, Statistics, English, Biology, Urdu.

O-LEVELS | 2015-2018 | CITY SCHOOL PAF CHAPTER, KARACHI| GRADES: A*s & As

Research & Projects

1. ***Implementation of File and Message Transfer using TCP/UDP:*** Developed a terminal app in Python using both a reliable and unreliable transport protocol together with the transport logic.
2. ***Implementation of Link-State Routing:*** Designed my version of Link-State Routing in Python using Dijkstra's Algorithm.
3. ***Implementation of a Peer-to-Peer File sharing system:*** Built a peer-peer file sharing system that uses Distributed Hash Table, leverages consistent hashing, and is resilient to node failures in Python.
4. ***Blockchain Mining and Chain Validation Algorithm:*** Designed my version of blockchain mining and chain validation with cross-validation from nodes in the local blockchain in Python.
5. **E-Periodic Table:** Designed my own version of an E-Periodic Table in C++.
6. ***Ethereum Smart Contract deployment using Solidity:*** Deployed a simple Blockchain-based Banking System program using a Solidity Smart Contract and a Blockchain-based Auction program using a Solidity Smart Contract using Ropsten Test Network.
7. ***Implementation of an Artificial Neural Network from scratch:*** Made my version of an ANN with 1 hidden layer and then with N number of hidden layers in Python using the MNIST and Fashion MNIST dataset from Keras and tested the Neural Network on a dataset created by me and it gave above average accuracy on my dataset.
8. ***Implementation of Linear Regression and Multi-variable Linear Regression from scratch in Python using NumPy.***
9. ***Currently working on research on user perceptions of smart cameras in Pakistan.***
10. ***Made a program for a Simple Reflex Agent and Model-Based Agent to solve a simplified variant of the Wumpus World Problem in Python.***
11. ***Please visit my portfolio to see some of my projects apart from these. Link to my portfolio is given above.***

Skills

- Python
- C++
- Blockchain
- Solidity
- Basic Machine Learning
- HTML
- CSS
- JavaScript

Honors & Awards

- Syed Babar Ali School of Science and Engineering Dean's Honor List 2021
- Nixor College High Achiever Award 2020
- Received 25% sports scholarship in Nixor College 2018-2020
- Captain of Nixor College's Basketball Team 2019-2020
- Captain of The City School PAF Chapter's Basketball Team 2017-2018

Extracurriculars'

- Key member of LUMS Basketball Team 2022
- Nixor Basketball Team 2018-2020
- The City School PAF Chapter Basketball Team 2015-2018

Volunteer Experience

Animal Welfare Society - LUMS | Assistant Director - Human Resources and Logistics 2021-2022
Leading a team of 8 people; Successfully secured a sponsor worth more than 100,000 PKR for the society; Successfully planned and managed the flagship event of the society, Pets Day, in which more than 200 LUMS students showed up.

LUMS Community Service Society | Volunteer 2020-2021

Meri Bhi Aik Khwaish Hai | Financial Analyst 2018-2020
Managed all the finances of this NGO; Decided budgets for all the events; Successfully scored various sponsorships.