Harsh Tomar

Pre-Final Year | Artificial Intelligence & Data Science | IIT Jodhpur
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EDUCATION

IIT JODHPUR
BTech in Artificial Intelligence & Data Science
2021 - 2025 | Jodhpur, India
CGPA: **8.3 / 10** (upto 4th sem)

IDP SCHOOL
C.B.S.E Board | Class 12th
Grad. July 2020 | Ahmedabad, India
Percentage: **93%**

PRAKASH HIGHER SECONDARY SCHOOL
C.B.S.E Board | Class 10th
Grad. March 2018 | Ahmedabad, India
Percentage: **95.6%**

LINKS

Github:// **gojousatoru007**
LinkedIn:// **Harsh Tomar**

COURSEWORK

UNDERGRADUATE
• Data Structures & Algorithm
• Pattern Recognition & Machine Learning
• Probability, Statistics & Stochastic Processes
• Principles of Computing Systems

SKILLS

LANGUAGES & FRAMEWORKS
• C/C++ • Python
• Assembly Language Programming
• SQL • PHP • API • Bash • VHDL

MACHINE LEARNING & AI
• TensorFlow & PyTorch •NetworkX
•Neural Networks •Geometric Deep Learning •Scikit-Learn

OTHERS
• Arch Linux & Ubuntu • Virtualization
• Docker • Apache • MongoDB • MySQL
• Multi-Threaded Servers •MarkDown

ACHIEVEMENTS

• **Silver Medal** in **Math Olympiad (2019)**
• Ranked within the **top 4%** from a pool of 0.25 Million candidates in **JEE Adv. 2022**

EXTRACURRICULAR

• Selected for **Inter-IIT TechFest (2022)** organized by **IIT Kanpur**

WORK EXPERIENCE

DESIGN PROJECT | Cyber Security Using ML | Dr. Ravi Yadav
April 2022 - September 2022| IIT Jodhpur
- Developed and implemented **machine learning models** to accurately predict and prevent adversarial attacks on networks, enhancing overall **network security**.
- Led the end-to-end Full-Stack development of a **Web3** decentralized web application, leveraging **blockchain technology** and smart contracts.
- Designed and implemented the architecture, ensuring **scalability**, **security**, and **user-friendliness** of the decentralized web application.

RESEARCH WORK

GRAPH NEURAL NETWORKS | Dr. Dip Sankar Banerjee
December 2022 - Current | IIT Jodhpur
- Conducted in-depth research on **Graph Neural Networks** and gained expertise in various graph architectures, including GraphSage and Graph Attention Networks.
- Explored and analyzed the application of GNNs in diverse datasets, such as **biomolecules**, **social networks**, **citation networks**, **recommender systems**, and **knowledge graphs**.
- Conducting comprehensive performance evaluations of GNNs on multiple datasets, assessing their effectiveness in tasks such as **node classification**, **link prediction**, or **graph generation**.

PROJECTS

CREDIT RISK ANALYSIS ⎘
Machine Learning, Neural Networks, Sampling
- Worked on recognizing fraudulent credit card transactions from naturally high-unbalance data.
- Since the fraudulent transactions accounted for **0.172%** of all the transactions, we applied various ANNs, SVM, and Sampling Methods.
- Achieved **98.8% Accuracy**

DETECTION OF PARKINSON'S DISEASE ⎘
Machine Learning, PreProcessing, Neural Networks
- Worked on detecting Parkinson's Disease based on the Dataset based on Vocal Features and Voice Recordings of patients for diagnosis.
- Achieved **89% Accuracy** in successfully detecting the disease.

VIRTUALIZATION IN LINUX ⎘
PHP, Python, C, Apache, Servers, PostgreSQL, MongoDB
- Running Multiple **Virtual Machines** in Arch Linux & Ubuntu with different Network Properties.
- Set up **MultiThreaded** Servers and Websites that interact with the **database**.

NETWORKING: SERVERS ⎘
Python, C, TCP/UDP, Networking Protocols, HTTPS, Backend
- Understanding **Networking Protocols** and setting up UDP/TCP Sockets that communicate between different machines on the network
- Further set up **multithreaded servers** that serve **multiple clients** at the same time using **Socket Programming**.