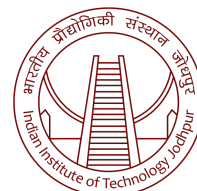


HARSH TOMAR

Indian Institute of Technology, Jodhpur

@ tomar.7@iitj.ac.in (+91) 7016910059 in LinkedIn Harsh Tomar
Github



॥ त्वं ज्ञानमयो विज्ञानमयोऽसि ॥

EXPERIENCE

CyberSecurity Using Machine Learning

Design Project | Dr. Ravi Yadav

📅 April 2022 – September 2022 📍 IIT Jodhpur

- Developed and implemented robust **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**.

RESEARCH WORK

Graph Neural Networks

Research Project | Dr. Dip Sankar Banerjee

📅 December 2022 – Present 📍 IIT Jodhpur

- Conducting in-depth research on **Graph Neural Networks** and gained expertise in various **graph architectures**, including **GraphSage** and **Graph Attention Networks**.
- Exploring and analyzing 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, Data Sampling Methods

- Worked on detecting fraudulent credit card transactions within naturally **high-unbalance data**.
- Given that the fraudulent transactions constituted only **0.172%** of all transactions, various **Sampling Methods** and **Learning Models** were applied.
- Achieved **98.8% Accuracy**.

Detection of Parkinson's Disease

Machine Learning, Pre-Processing, Neural Networks

- Worked on detecting Parkinson's Disease from Dataset based on **Vocal Features** and **Voice Recordings** of patients for diagnosis.
- Achieved **87% Accuracy** in successfully detecting the disease.

Virtualization & Networking In Linux

Python, C, PHP, Apache, Servers, PostgreSQL, MongoDB

- Running Multiple **Virtual Machines** in Arch Linux & Ubuntu with different Network Properties.
- Understanding **Networking Protocols** and setting up **UDP/TCP Sockets** that communicate between different machines on the network.
- Setting up **MultiThreaded Servers**, **Web Applications** and **Multiple Clients** that interact with the **database**.

EDUCATION

B.Tech. in Artificial Intelligence & Data Science

IIT Jodhpur

📅 2021 – Present 📍 Jodhpur, India

- CGPA : **8.20 / 10** (up to 4th Semester)

Class XII

📅 Grad, July 2020 📍 Ahmedabad, India

- Percentage : **93%**

Class X

📅 Grad, March 2018 📍 Ahmedabad, India

- Percentage : **95.6%**

SKILLS

C/C++ Python SQL PHP Bash

Assembly Language Programming

Tensorflow & PyTorch NetworkX

Neural Networks Scikit-Learn

Geometric Deep Learning

Arch Linux & Ubuntu Virtualization

Docker Apache MySQL MATLAB

Multi-Threaded Servers VHDL API

COURSEWORK

UNDERGRADUATE

- Data Structures & Algorithms
- Pattern Recognition & Machine Learning
- Probability, Statistics & Stochastic Processes
- Principles of Computing Systems
- Engineering Mathematics I & II

ACHIEVEMENTS

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

EXTRACURRICULARS

- Worked on Face Recognition Project at Inter-IIT TechFest (2022) hosted by IIT Kanpur.