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Kotte Pravallika

Github
LeetCode

Education

Indian Institute of Information Technology — Gwalior, India
Integrated M. Tech in Information Technology, CGPA: 7.2/10 — *Nov 2022 – May 2027*

- **Coursework**: Data Structures & Algorithms, Object-Oriented Programming, Objects & Software Design, Computer Organization, Systems & Networks, Design of Algorithms, Database Systems, Machine Learning, Artificial Intelligence

Projects

Reliable UDP-based Peer-to-Peer File Transfer System — GitHub
Personal project — *Oct 2025*

- Developed a lightweight **peer-to-peer intranet file-sharing CLI application** using **Python and UDP socket programming**, enabling decentralized file exchange without centralized servers.
- Implemented **10+ networking features** including LAN peer discovery, file chunking, sequence numbering, ACK-based retransmission, timeout handling, and concurrent sender–receiver communication.
- Designed a **custom application-layer reliability protocol over UDP**, achieving **99%+ successful file transfer accuracy** through retransmission and acknowledgement mechanisms.
- Built a **multithreaded networking architecture** with separate sender and receiver sockets to support simultaneous peer discovery and reliable file transfers on Windows systems.
- Integrated a **command-line interface (CLI)** to dynamically list peers, enumerate shared files, and request files across a distributed network.

Phishing URL Detection using Deep Learning and NLP — B.Tech Project
Academic Project — *May 2025 – Aug 2025*

- Built an **end-to-end phishing URL detection system** using **character-level NLP and deep learning**, enabling fast URL-only classification without webpage content.
- Implemented and benchmarked **BiLSTM, 1D-CNN, and CNN–LSTM models** on **549K+ labeled URLs** to evaluate accuracy, recall, and efficiency.
- Achieved **98.9% cross-validated accuracy** and **0.99 recall** with a **1D-CNN**, effectively minimizing false negatives in security-critical scenarios.
- Validated robustness using **5-fold stratified cross-validation** with **low variance (±0.04%)**, ensuring strong generalization to unseen phishing URLs.

eXplainable AI for Obesity Risk Prediction — Mini B. Tech Project
Academic Project — *Jan 2025 – Apr 2025*

- Created predictive ML models (Logistic Regression, Random Forest, XGBoost) with XAI using LIME and SHAP for interpretability and transparency.
- Optimized models using hyperparameter tuning and validation strategies to ensure high prediction reliability.

Involvement

- **Abhigyan Abhikaushalam Students' Forum** : Created 10+ algorithmic problems for institute-level coding contests; promoted peer learning via code reviews.
- **Aurora 2024**: Collaborated with event heads and participants at a cultural fest, demonstrating strong communication, coordination, and teamwork skills.

Honors & Awards

- **LeetCode**: Solved 425 C++ problems, 59 MySQL problems, 28 JavaScript problems; Contest Rating: 1,592 (Top 24.2% in 10 contests).
- **Codechef**: Highest rating 1,519 (Global Rank: 25,319; India Rank: 22,991).

Skills

Languages: C++/C, Python, Javascript, MATLAB
Technologies: Git, Node.js, React, MySQL, MongoDB, Flask, Linux, HTML/CSS
Soft Skills: Communication, teamwork, problem solving, fast learning, documentation