TARUN PRAKASH

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Education

Netaji Subhas University of Technology   **Sep. 2022 – May 2026**
Bachelor of Technology in Electronics and Communication Enginnering   *New Delhi, Delhi – 8.33 Cgpa*

Rishabh Public School   **Sep. 2020 – May 2021**
Class XIIth – CBSE   *New Delhi, Delhi – 93.6%*

Experience

Backend Developer (Freelancer)   **Jan 2024 – May 2024**
Chemmanur Group — Microservice Backend for Gold Loans

- Orchestrated and deployed a secure, microservice-based backend for gold loan operations using NestJS, Prisma, and PostgreSQL, serving 3000+ users daily across web and mobile platforms, while improving modularity
- Optimized database performance, reducing API response time by 40% through efficient indexing and query optimization across the Dashboard, Client, and Gateway services.

Full-Stack Developer Intern   **May 2024 – Jun 2024**
Myndfit — MyndFit Platform

- Architected and deployed full-stack features for the MyndFit web platform using React.js and Spring Boot, implementing secure API communication, JWT-based authentication, and role-based access control to strengthen platform security.
- Formulated a real-time data sanitization pipeline leveraging SQL cleanup operations with whitelist validation, eliminating 98% of malicious or suspicious entries and significantly enhancing system integrity and data hygiene.

Projects

Solar System (3D Simulation) | *ReactJS, Three.js, React Three Fiber, Material UI* — `GitHub Repo`

- Engineered a fully interactive 3D solar system using ReactJS and Three.js, integrating high-resolution NASA datasets and achieving 60+ FPS on modern browsers.
- Applied orbital mechanics and vector mathematics to animate planetary motion, reducing rendering latency by 35% through optimized state management.

BloomTrade (Stock Trading Platform) | *ReactJS, Fastify, FastAPI, LangChain, Postgres, Redis, Kafka* — `GitHub Repo`

- Designed and built a real-time stock trading interface with live updates using Kafka, ReactJS frontend, and FastAPI backend for simulation logic.
- Reduced query latency from 150ms to 20ms using Redis caching and function-level memoization.
- Integrated LLMs via LangChain to assist users in understanding stock trading and generating real-time financial insights.

Credit Risk Prediction using Explainable AI (XAI) | *Python, Scikit-learn, SHAP, LIME* — `GitHub Repo`

- Developed a credit risk prediction model on a dataset of 30,000 clients, achieving 85% F1 score by applying advanced resampling techniques (SMOTE, KMeans-SMOTE) to handle 22% class imbalance.
- Improved recall for minority (high-risk) class by 30%, significantly enhancing fairness in model predictions.
- Applied interpretable ML techniques (SHAP, LIME) to provide transparent, regulator-compliant explanations for global and individual predictions, boosting stakeholder trust.

Technical Skills

Languages: C++, C, Python, TypeScript, JavaScript
CS Fundamentals: Data Structures & Algorithms (C++), Object Oriented Programming (OOP), SOLID Principles, System Design, Database Management System (DBMS), Structured Query Language (SQL), Operating System
Cloud & Distributed Systems: Azure, AWS, GCP, Kafka, Redis, Docker
Web Frameworks: ReactJS, Node.js, Express.js, Fastify, FastAPI, NestJS
Machine Learning and Generative AI Frameworks: Scikit-learn, TensorFlow, Keras, LangChain, LangGraph
Databases and Related Tools: PostgreSQL, Prisma ORM, MongoDB, Neo4j, Pinecone
Developer Tools: VS Code, Git, Github, Google Collab

ACHIEVEMENTS

- Secured a maximum **Specialist rating (1400+)** on Codeforces, demonstrating strong problem-solving ability and proficiency in Data Structures, Algorithms, and Competitive Programming.
- Achieved a maximum **Knight rating (1900+)** on LeetCode, solving over 800+ problems across diverse algorithmic domains..
- Selected as a **Top 6 Finalist** in **Smart India Hackathon (SIH) 2024** for developing a distributed, context-aware platform for crop disease prediction and farmer collaboration using Generative AI.