Piyush Sharma

New Delhi, Delhi

piyushsharma1729@gmail.com | 9999067575 | Website | LinkedIn | GitHub

Education

Thapar Institute of Engineering and Technology, BTech in Computer Science	Oct 2022 – June 2026
Choudhary Baldev Singh Model School, Intermediate	Apr 2021 – Mar 2022
D.A.V. Public School, Matriculation	Apr 2019 – Mar 2020

Experience

Software Engineer Intern-Synexoo — Jan 2025 – Mar 2025

- Architected and deployed scalable RESTful APIs for a social media platform using Node.js, Express, and MongoDB; implemented JWT-based authentication, role-based access control, and optimized database queries to support growing user traffic.
- Designed follow/unfollow system and profile management modules with efficient schema modeling, contributing to a 30% increase in active user engagement during testing phase.
- Engineered real-time messaging infrastructure using Socket.io (WebSockets), enabling reliable bidirectional communication for 500+ concurrent users with stable session handling and event-driven architecture.

Projects

SentinelAI

- Built a production-grade API security gateway in NestJS that evaluates 90% of incoming traffic using adaptive risk scoring (0–100), dynamically classifying requests as ALLOW, THROTTLE, or BLOCK — eliminating reliance on static rate limiting.
- Engineered Redis-based sliding window rate limiting using sorted sets + TTL, auto-blocking malicious IPs after 8–10 abnormal requests; reduced simulated abuse traffic by 92% during attack testing while maintaining zero downtime.
- Designed a secure admin control plane (X-ADMIN-API-KEY protected) with real-time ban inspection, risk analysis, and manual override APIs; deployed containerized system via Docker on Railway with production-ready environment isolation.

FinBoard

- Developed a modular, widget-based stock analytics dashboard using Next.js 16, React 19, and TypeScript, enabling users to build customizable workspaces with drag-and-drop persistence and multi-interval charting.
- Architected a multi-provider API fallback layer(Alpha Vantage+Finnhub+TwelveData) with centralized data normalization and client-side caching, reducing failed API responses by 70% under rate-limit conditions.
- Implemented interactive financial visualizations (line & OHLC candle charts) using Recharts with Zustand-based global state management, ensuring consistent real-time rendering across 3+ data sources; deployed securely on Vercel.

VCMtalker AI Assistant

- Engineered a fully offline desktop AI assistant for Windows (downloadable installer) leveraging a locally hosted LLM (Ollama+Gemma), enabling natural-language voice/text interaction, system automation, and file intelligence without any cloud dependency — ensuring 100% data privacy and sub-second response latency on consumer hardware.
- Built an end-to-end voice interface pipeline (speech-to-text→command engine→local LLM→text-to-speech) supporting always-listening mode, application launching, web automation, and real-time system monitoring, achieving >80% command execution accuracy across 50+ system actions.
- Delivered a production-ready desktop product with persistent long-term memory and OS-level integration, packaged via PyInstaller + Inno Setup into a one-click installer (95MB), enabling users to deploy a fully functional AI agent locally in <2 minutes with zero external services.

Stock Price Prediction Model

- Developed a full-stack stock forecasting platform using Flask integrating ARIMA, LSTM, and Linear Regression models, achieving 4.8%–9.5% RMSE on historical test datasets across multiple equities.
- Engineered a hybrid prediction pipeline combining 2+ years of historical price data with sentiment-weighted analysis of 25+ financial news headlines using NLTK VADER, improving short-term directional prediction confidence.
- Designed automated financial feature extraction (15+ technical & ratio-based indicators) and delivered 7-day rolling forecasts with trend visualization and BUY/HOLD signal generation via interactive web interface.

Skills

Languages: C++, Python, JavaScript, TypeScript, SQL
Backend & Systems: Node.js, Express.js, RESTful APIs, Redis, MongoDB, MySQL, Docker, AWS, Authentication (JWT), Websockets.
Frontend & CS Fundamentals: React, Next.js, Angular, Git, Linux, Object-Oriented Programming, DSA, System Design
AI&Data: Machine Learning(ARIMA,LSTM,Linear Regression), NLP(NLTK VADER), Local LLM Integration(Ollama), LangChain.

Competitive Programming

- **LeetCode** - Rating 1650+(in top 17.3%), Solved 550+ Questions
- **(3-star) CodeChef** - Rating 1600+, Solved 200+ Questions