

Divyanshu Sharma

+91 9369010063 | divyanshu88999@gmail.com | linkedin.com/in/mr-divyanshu | github.com/DivyanshuX9

EDUCATION

Vellore Institute of Technology

Chennai, India

B.Tech in Computer Science and Engineering, CGPA: 8.24/10

Aug. 2023 - May 2027

- Coursework: Machine Learning, Artificial Intelligence, Data Mining, Probability & Statistics, Linear Algebra, DBMS, Data Structures and Algorithms, Operating Systems

TECHNICAL SKILLS

Languages: Python, SQL, R, C/C++, Java, JavaScript

ML & AI: TensorFlow, Keras, PyTorch, Scikit-Learn, XGBoost, OpenCV, Statsmodels, Pandas, NumPy

Generative AI: RAG, Gemini API, LLM Integration, Prompt Engineering, NLP, Computer Vision

Competencies: Predictive Modeling, Feature Engineering, Anomaly Detection, Time Series Forecasting, A/B Testing, Experimental Design, Ensemble Methods, Cross-Validation

Tools: Git, Azure ML, Docker, Jupyter Notebook, Tableau

Databases: MySQL, MongoDB, PostgreSQL

PROJECTS

Weather-Robust Traffic Sign Recognition | *Python, EfficientNetB3, TensorFlow, Keras, OpenCV* Mar. 2026 - Jun. 2026

- Achieved 98.98% GTSRB validation accuracy and improved Gaussian noise robustness by 31.66pp by fine-tuning EfficientNetB3 with a 6-condition synthetic weather augmentation pipeline (fog, rain, motion blur, low light, brightness, Gaussian noise).
- Raised cross-country generalization to 94.8% Top-1 accuracy on the 62-class Belgian Traffic Sign Dataset (BTSD), 86.2pp above a scratch-trained baseline, by transfer-learning on just 4,575 target-domain images, demonstrating data-efficient domain adaptation.
- Validated robustness gains quantitatively: rain robustness improved by 14.26pp and Gaussian noise by 31.66pp over the clean baseline model, confirming the augmentation pipeline's real-world utility.

Walmart Sales Prediction Model | *Python, XGBoost, Random Forest, Scikit-Learn, Pandas* Jul. 2024 - Sept. 2024

- Reduced forecasting MAE by 87% (\$434K to \$57K) across 45 Walmart stores by engineering a Stacking Regressor combining XGBoost and Random Forest, achieving Test R^2 of 0.965.
- Strengthened seasonal robustness by building a feature engineering pipeline with lag variables, rolling statistics, Holiday Flags, and CPI as top anomaly predictors, validated through seasonal cross-validation across 3 years of weekly data.

NABHA Health | *RAG, Gemini API, NLP, Node.js, MongoDB, Twilio, Bolna.ai* Jan. 2025 - Apr. 2025

- Reduced time-to-triage for frontline healthcare workers by architecting a RAG pipeline using the Gemini API to process unstructured clinical text and generate structured medical summaries, cutting document review time by an estimated 40%.
- Enabled 24/7 rural patient intake by building a voice-based AI triage agent on Bolna.ai with Twilio telephony, classifying case severity across 5 urgency levels and routing patients to reduce hospital overcrowding.
- Reduced frontend perceived latency by implementing lazy-loaded React components and skeleton screens; served prescription images via Cloudinary CDN transforms, cutting median image load time and improving session retention during triage flows.

RBAC-DocEncryption | *Solidity, AES-256-GCM, Gemini API, OpenCV, Hardhat* Jan. 2026 - Apr. 2026

- Achieved zero plaintext exposure in a multi-role document system by using Gemini API with OpenCV to detect sensitive regions and applying field-level AES-256-GCM encryption with unique per-column keys and JWT-based RBAC.
- Enabled immutable audit logging and tamper detection by integrating Solidity smart contracts via Hardhat to store SHA-256 document hashes and log access events on-chain.

OPEN SOURCE CONTRIBUTIONS

Node.js Core | *C++, JavaScript, AsyncLocalStorage, V8* Mar. 2026 - Present

- Eliminated recursive APM instrumentation overhead for all diagnostics channel subscribers (PR #63651) by implementing opt-in suppression via lazy AsyncLocalStorage initialization, delivering zero overhead on the normal subscriber path.
- Fixed a fatal REPL crash affecting all users with asm.js modules (PR #63491, approved by core maintainer jasnell) by adding a `can_call_into_js()` guard in `src/node_errors.cc` with SetImmediate-based deferred emission, preserving all `--redirect-warnings` routing.

ACHIEVEMENTS

Indian Patent No. 202641008474 2026

Smart Self-Healing Drone Propeller System

- Designed an autonomous in-flight crack repair system integrating self-healing polymers, Shape Memory Alloys, and real-time sensors, reducing operational downtime for delivery, surveillance, and rescue drones.

WorldQuant IQC 2026 - Ranked under 40 globally out of 21,700+ teams (Top 0.2%) 2026

3-stage competition, 80,000+ participants across 142 countries

Smart India Hackathon 2025 - Institute-Level Selection 2025

Led 6-member agile team to Top 50 out of 864 teams at VITISH'25 (24-hour sprint, 27 Sept 2025); advanced to national SIH track