

Ayush Patwa

AI/ML — Data Science — Full-Stack Developer

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Technical Skills

Languages: Python, Java, JavaScript, SQL

Frameworks & Libraries: React.js, Next.js, Node.js, Express.js, FastAPI, Flask

AI / Data Science: ML, NLP, Computer Vision, Scikit-learn, Pandas, NumPy, OpenCV, Transformers

Databases: MongoDB, Firebase

Developer Tools: Git, GitHub, VS Code, Docker, Postman

Concepts: Data Structures & Algorithms, REST APIs, OOP, Web Security

Projects

KisanBuddy – AI-Powered Agricultural Assistant *(Next.js, FastAPI, Gemini API, Vertex AI, Firebase)*

- Developed a multilingual AI-powered Progressive Web App (PWA) to assist farmers with crop disease diagnosis, weather hazard alerts, and real-time market price intelligence.
- Implemented an agentic Planner–Executor–Validator architecture integrating Vertex AI, SWIN Transformer, LSTM forecasting, and Earth Engine services for intelligent decision making.
- Designed an offline-first architecture using IndexedDB with AES-256 encryption and background synchronization to improve reliability in low-connectivity regions.

Scantinel – Automated Web Vulnerability Scanner *(React, Node.js, Express.js, MongoDB)*

- Built a full-stack web vulnerability scanner performing 10 automated security assessment phases including header analysis, SSL validation, port scanning, and exposed resource detection.
- Implemented real-time scan progress using Server-Sent Events (SSE), AI-assisted security recommendations, PDF/CSV report generation, and historical scan management.
- Developed an interactive security dashboard with risk grading, severity visualization, scan comparison, and exportable audit reports.

VeriGraph AI – Propaganda & Claim Verification Platform *(Python, FastAPI, Next.js, Transformers)*

- Developed an AI-driven misinformation analysis platform capable of tracking claim propagation across News RSS, Facebook, Telegram, GDELT, and CommonCrawl sources.
- Implemented real-time propagation analytics including virality scoring, threat assessment, amplification tracking, and confidence-based claim verification.
- Designed scalable backend services with parallel data collection pipelines and interactive visualization dashboards for misinformation monitoring.

PhishGuard AI – Intelligent Phishing Detection System *(Python, Flask, Scikit-learn)*

- Built an Explainable AI-powered phishing detection platform capable of identifying malicious URLs and emails using machine learning models.
 - Integrated threat visualization, IP geolocation, explainable predictions (XAI), and detailed security reports to improve cybersecurity awareness.
 - Designed an interactive dashboard with REST APIs for real-time phishing analysis and threat intelligence.
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Achievements

- **Runner-up – HackSprint 2026** — Won 2nd place and a cash prize of 3,000 for developing an AI-based solution.
 - Participated in **Smart India Hackathon (SIH)**, HackIndia, and HackBio, collaborating on AI, cybersecurity, and software engineering projects.
 - Created technical programming content on YouTube, sharing software development and technology concepts.
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Certifications

- Artificial Intelligence and Machine Learning – Coding Spoon
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Education

Rungta College of Engineering and Technology, Bhilai

2024 – Present

Bachelor of Technology (B.Tech.) in Computer Science

CGPA: 7.50/10
