

MANAS BAGUL

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Education

Vishwakarma Institute Of Technology, Pune
B.Tech in Computer Engineering (AIML)

2023 – Present
CGPA: 8.81/10

Experience

Passion Infotech Pvt. Ltd., Pune

Jan 2025 – July 2025

AI Developer Intern

- Developed AI-driven simulation modules using LLaMA3, FastAPI, and ChromaDB.
- Implemented embeddings, data pipelines, and evaluation metrics for model scoring.

Projects

CNN-based Document Verification System [GitHub]

2024

- Developed a multi-class CNN model for detecting document originality (Real vs Xerox).
- Implemented VGG16, MobileNet, ResNet, and Inception architectures; achieved **93.82% accuracy** with VGG16.
- Built a complete ML pipeline with augmentation, testing scripts, and comparative analytics.

AI Court Evidence Analyzer [GitHub]

2025

- Designed AI pipeline to analyze CCTV frames for violence, weapon detection, and human-count estimation.
- Integrated CNN models with timestamp extraction and automated case documentation.
- Developed a Django backend for evidence uploads, processing, and reporting.

Gradient Descent Visualizer [Vercel]

2025

- Built an interactive visualization tool to demonstrate gradient descent on regression models.
- Created dynamic plots for loss surfaces, convergence paths, and parameter updates.
- Added optimizer comparisons: SGD, Batch GD, and Momentum.

Technical Skills

Programming: Python, SQL, C++, JavaScript

ML/DL: TensorFlow, Keras, Scikit-Learn, OpenCV, CNNs, RNNs, Transfer Learning

Data Science: EDA, Feature Engineering, Model Evaluation, Visualization (Matplotlib, Seaborn)

Tools: Git, Jupyter, Docker, Postman

Concepts: Machine Learning, Deep Learning, Statistics, Data Pipelines

Awards & Achievements

- Winner — **InnoHack 2.0** (National-level hackathon)
- **Bajaj Finserv HackRx 2025** — All India Rank **130**
- **LeetCode:** Contest Rating: **1687**
- **CodeChef:** Highest Rating: **1452** (**3** Coder)
- **CodeForces:** Rating: **1274** (*Pupil*)

Research & Publications

Document Verification using Convolutional Neural Networks
Traffic Management and Signal Manipulation System using ML
UrbanFlow - Smart Traffic Management System

ICIVC

IEEE

IEEE ASIANCON 2025

Position of Responsibility & Volunteering

ICON Club

Project Unit Secretary

Aug 2024 – Present

- Managed technical review cycles and coordinated industry-academia projects.

Student Developer Program Club

Event Coordinator

Jan 2025 – Present

- Organized Data Science workshops, ML bootcamps, and developer events.

Google Developer Student Club, VIT Pune

AI/ML Team Member

May 2024 – Present

- Mentored students on ML/DL fundamentals and contributed to club AI projects.