

# MANAS BAGUL

+91-7595961008    manas.m.bagul@gmail.com    LinkedIn    GitHub    Cultural Bridge Game

## Education

Vishwakarma Institute Of Technology, Pune

B.Tech in Computer Engineering (AIML)

2023 – Present

CGPA: 8.81/10

## Experience

Passion Infotech Pvt. Ltd., Pune

AI Developer Intern

Jan 2025 – July 2025

- 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

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### **ICON Club**

**Aug 2024 – Present**

*Project Unit Secretary*

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

### **Student Developer Program Club**

**Jan 2025 – Present**

*Event Coordinator*

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

### **Google Developer Student Club, VIT Pune**

**May 2024 – Present**

*AI/ML Team Member*

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