

# Yashwardhan Patil

Indapur - 413106, Pune | +91 9588619901 | yashwpatil@gmail.com | [www.linkedin.com/in/yashwpatil](http://www.linkedin.com/in/yashwpatil) | [github.com/yashwpatil](https://github.com/yashwpatil)

## Profile

Motivated Computer Science undergraduate specializing in Artificial Intelligence and Machine Learning, with strong foundations in machine learning, full-stack development and automation systems. Experienced in building real-world AI-driven solutions, including forecasting systems, IoT-based monitoring and platform-scale web applications. Actively pursuing a Minor Degree in Entrepreneurship with a keen interest in applying AI to scalable, impactful products.

## Projects

### CONSTRUCTION SITE MONITORING SYSTEM

Tech Stack: Raspberry Pi, Python, OpenCV, TensorFlow Lite (YOLO)

- Developed an IoT-based real-time monitoring system to ensure worker safety at construction sites
- Implemented computer vision models to detect human presence and safety gear compliance
- Enabled edge AI processing to reduce latency and eliminate dependency on cloud inference
- Improved site safety automation and reduced manual supervision requirements

### WEATHER FORECASTING USING MACHINE LEARNING

Tech Stack: Python, LSTM, XGBoost, MLP, Pandas, NumPy

- Built an ensemble ML model for short-term weather forecasting using historical time-series data.
- Predicted temperature, humidity and precipitation for up to 7 days
- Leveraged hybrid deep learning and tree-based models to enhance prediction robustness

### N8N CIVIC ISSUE REPORTING AUTOMATION SYSTEM

Tech Stack: n8n, LLM APIs, Image & Voice Processing, GPS Integration

- Built a fully automated civic issue reporting system using workflow automation
- Accepts images, voice notes, GPS location and text as input
- Uses LLMs to analyze, categorize and forward issues to the appropriate municipal department
- Eliminated manual complaint registration and improved response efficiency

### CRAVE: CROSS-MODAL REALNESS & AUTHENTICITY VERIFICATION ENGINE

Tech Stack: PyTorch, TensorFlow, LSTM, Librosa, Whisper, MediaPipe/Dlib

- Developed a multi-modal deepfake and voice manipulation detection system using visual, audio, and biomechanical signals
- Built a 3-layer architecture combining VFDNet, XceptionNet & LSTM models for enhanced detection accuracy
- Implemented adaptive fusion techniques for detecting face swaps, voice clones, lip-sync mismatches & full deepfake attacks
- Achieved ~98% visual detection accuracy and ~93% audio detection accuracy on real-world deepfake datasets

## Education

**Pimpri Chinchwad College of Engineering, Pune | CGPA - 7.2 | 2023 - Present**

B. Tech in Computer Science & Engineering (Artificial Intelligence & Machine Learning) AND Minor in Entrepreneurship

**Dr. Kadam Jeevan Vikas Prashala, Indapur | HSC - 75% | 2021 - 2023**

**S. B. Patil International School, Indapur | SSC - 93% | 2010 - 2021**

## Technical Skills

- **Programming Languages** : Python, C, C++, JavaScript
- **Web Development**: HTML, CSS, React.js, Node.js, Express.js, REST APIs, Full Stack
- **Automation & Tools**: Antigravity, n8n, Git, GitHub, VS Code,
- **Machine Learning & AI**: Machine Learning, Deep Learning, Ensemble Models, Time-Series Forecasting, LLM Integration
- **Databases**: PostgreSQL, SQL, MySQL, MongoDB, Supabase

## Achievements

- Research paper accepted for international conference presentation (London).
- Selected for Springer LNNS publication
- 2<sup>nd</sup> Rank - Secure AI Software & Systems Hackathon (Organized by IIT Madras & BITS-Goa under MEITY/ISEA Program)