

# BHUMIK UPPAL

## AI/ML Developer

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### Summary

B.Tech Industrial IoT student specializing in Generative AI, Computer Vision, and MLOps. Published Springer researcher experienced in developing and deploying end-to-end AI systems — from R&D to full-stack deployment. Proficient in Python, TensorFlow, SQL, Docker, and Microsoft Azure.

### Technical Skills

**Languages:** Python, Java, SQL | **AI/ML:** GenAI, RAG, Computer Vision, NLP, TensorFlow, OpenCV  
**MLOps & Frameworks:** Docker, Kubernetes, CI/CD, Git, Microsoft Azure, Flask, FastAPI, Streamlit, SQLAlchemy, MySQL, REST APIs

### Research & Publications

**Smart Waste Management: Advanced Computer Vision for Efficient Segregation** | *Springer LNNS* **2025**

- Published and presented at the 8th International Conference on Innovative Computing and Communication (ICICC).
- Proposed an optimized Computer Vision model for automated waste segregation using CNN and image processing, improving efficiency and throughput.

### Experience

**AI & Full Stack Developer Intern**

**July 2025 – August 2025**

*Escorts Kubota Ltd.*

*Faridabad*

- Designed and deployed an AI-powered business intelligence assistant that converts natural language queries into actionable data insights.
- Developed the full stack using Flask, SQLAlchemy ORM, and Streamlit; integrated LLMs for intelligent query understanding.
- Delivered a production-ready tool enabling non-technical teams to analyze sales data through visual dashboards.

### Projects

#### IoT Waste Segregation

- Built a YOLOv5 + CNN hybrid model achieving 94% accuracy on custom datasets.
- Deployed on Raspberry Pi using TensorFlow Lite for real-time edge inference.

#### TalentScout AI

- Created an AI-driven hiring platform with conversational LLM integration for automated candidate evaluation.
- Implemented full-stack architecture enabling real-time question generation and hiring report generation.

#### Sign Language Learning App

- Developed an LSTM-CNN model with MediaPipe for hand tracking; achieved high-accuracy gesture recognition (less than 100ms latency).
- Deployed via Flask API for real-time English/Gujarati translation.

#### She Nurtures AI Assistant

- Developed an empathetic health assistant offering reproductive health support, pitched to the Govt. of Karnataka.
- Built a dual-mode web app (Node.js, Azure TTS) providing accessible voice and chat-based guidance.

### Achievements

- **5th Place – Brewing Codes 3.0:** Ranked among top 5 out of 80 teams in the hackathon.
- **Smart India Hackathon (SIH):** Selected twice at the institutional level for national participation.
- **Hack-O-Clock:** Competed in event by Google Coding Group & Geek Room.
- **Microsoft Azure Ideathon:** Participated in Cloud & AI challenge, focusing on AI deployment and automation.

### Education

**Bachelor of Technology in Industrial Internet of Things (IoT)**

**2022 – 2026**

*Vivekananda Institute of Professional Studies, New Delhi*

*CGPA: 7.41 / 10 (Expected Graduation: 2026)*