

BHUMIK UPPAL

Applied AI Engineer — Backend Systems

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Summary

Applied AI Engineer building end-to-end systems combining full-stack development, AI capabilities, and scalable deployment. Experienced in designing and shipping production-ready applications. Published researcher with a background in computer vision, machine learning, and IoT systems.

Technical Skills

Languages: Python, Java, SQL | **AI & ML:** Computer Vision, NLP, RAG Pipelines

Backend: FastAPI, Flask, REST APIs, JWT, Authentication | **Databases:** PostgreSQL, MySQL, MongoDB

DevOps & Systems: Docker, CI/CD (GitHub Actions), AWS, Nginx, Google Cloud (OAuth), DNS, Git

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.

Experience

UnivAegis AI

Delhi, India

Software Developer, Founder's Office

Jul 2026 – Present

- Designed and maintained backend systems powering authentication, bookings, scheduling, and platform workflows.
- Partnered with the founder on product and technical decisions, integrating cloud services and AI capabilities.

Software Developer Intern

Jan 2026 – Jul 2026

- Built core features for Your Next University (YNU), an AI study-abroad platform: auth, bookings, and admin tools.
- Developed backend services for payments and scheduling used in production.

Escorts Kubota Ltd.

Faridabad, India

AI & Full Stack Developer Intern

Jul 2025 – Aug 2025

- Deployed an AI assistant enabling natural-language querying and automated data visualization.
- Built the full stack with Flask, SQLAlchemy, and Streamlit, with integrated NLP query processing.

Projects

IoT Waste Segregation 🐙 GitHub

- 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 🐙 GitHub

- 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.

Med-Guard App 🐙 GitHub

- Developed an AI-powered platform using OCR and LLMs for prescription parsing and ADR risk analysis.
- Engineered a multilingual, offline-first system with drug-drug interaction (DDI) detection and real-time alerts (200ms, 92%+ OCR accuracy).

She Nurtures AI Assistant 🐙 GitHub

- 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 (IIoT)

2022 – 2026

Vivekananda Institute of Professional Studies, New Delhi

CGPA: 7.41 / 10