

Prabhjot Singh Assi

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Experience

IEEE Tech4Good (Funded)

July 2024 – March 2025

Tech Lead & Grant Recipient

Indore, India

- Secured \$4,000 USD funding to lead a high-impact humanitarian technology initiative using AI & IoT.
- Managed a cross-functional team of 5 to design, build, and deploy the *Krishi* soil analysis ecosystem.
- Deployed IoT hardware units to 10+ farmers, enabling real-time soil nutrient monitoring.
- Increased crop yields by 20% for pilot users by providing actionable data-driven fertilizer insights.

Projects

Signify | Flutter, Python, MediaPipe, Ensemble of Random Forest

- Engineered real-time bi-directional ISL translation system (**National Winner, SIH 2024**), achieving 95% recognition accuracy across 40+ gestures.
- Implemented optimized MediaPipe pipelines for hand-tracking and Ensemble of Random Forest for sequence classification within a scalable Flutter mobile architecture.
- Reduced latency to under 100ms for real-time translation, directly aiding hard-of-hearing communication.

Krishi | RAG, Gemini API, IoT, Flutter

- Built an AI-IoT agricultural platform increasing crop yields by 20% for 10+ pilots via precision soil analytics.
- Integrated a **RAG**-based advisory chatbot using **Gemini API** to deliver context-aware farming insights significantly outperforming static rule-based systems.
- Designed robust IoT sensor nodes for field data collection, synced via cloud infrastructure.

Med.AI | Python, PyTorch, Scikit-Learn

- Led a team of 4 to build a medical diagnostic assistant using Densenet.
- Achieved 85% diagnostic accuracy on a sparse dataset by leveraging DenseNet with transfer learning optimization.

Kavach – SOS Safety App | Java, XML

- Led the development team to engineer an Android application enabling users to send SOS messages during emergencies via non-suspicious predefined voice triggers.
- Achieved 80% trigger accuracy in high-noise environments using optimized audio processing.

Honors & Awards

National Winner – Smart India Hackathon (SIH) 2024

Dec 2024

Problem Statement 1716 (ISL Translation) | Awarded by Govt. of India

\$4,000 Grant Recipient – IEEE Tech4Good

July 2024

Global Grant Recipient for Project Krishi due to high social impact

Hackathon Wins (5): Intellify 3.0 (Winner), HackWave (Winner), Code for Bharat 2 (1st Runner-up), Codespire (1st Runner-up), Prayatna (3rd Runner-up).

Technical Skills

- Languages:** Python, SQL
- Python Libraries:** Flask, FastAPI, PyTorch, Scikit-Learn, OpenCV, NumPy, Pandas, Matplotlib
- GenAI & LLMs:** LangChain, RAG, Vector Databases (Chroma/Pinecone)

Education

Acropolis Institute of Technology and Research

Indore, India

Bachelor of Technology in CSE (AI & ML); CGPA: 7.22

Oct. 2022 – July 2026

- Coursework: Data Structures & Algorithms, OOP, DBMS, OS, Computer Networks, Machine Learning, Deep Learning