

# FARDEEN S KHADRI

[fardeenshakhadri@gmail.com](mailto:fardeenshakhadri@gmail.com)

+917795163421



## PROFESSIONAL EXPERIENCES

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### 1. Software Developer (*Indian Institute of Science (IISc), Bangalore*)

- Developing VR-based research projects and building custom Brachigraph designs with interactive interfaces.  
Implemented Python-based configuration workflows for real-time visualization systems.

### 2. DevOps Engineering (*Rooman Technologies, Bangalore*)

- Gained hands-on experience with CI/CD pipelines using Docker, Jenkins, Restful APIs, GitHub Actions, and Kubernetes.  
Automated deployment workflows for Python microservices. Managed software versioning and configuration consistency using Git.

### 3. Auditing Intern (*SVYM, Mysore*)

- Collaborated on the “WASH” project to build and deploy a website for social impact reporting. Conducted an energy audit for the SARAGUR hospital, identifying key areas for sustainability optimization.

## PROJECTS

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### PySummarizer – Python Library for Text Summarization.

- Developed a Python library supporting extractive/abstractive summarization of PDFs using NLP and transformer models using Python. Emulated RAG behavior by retrieving context and generating responses. Exposed endpoints via Flask for integration.
- Tech Stack:** Python, RAG, NLP, PDF Parsing, Abstractive & Extractive Summarization

### Optical Device for Intelligent Navigation.

- Built AI-powered smart glasses using ESP32-CAM to assist visually impaired users. Integrated voice-controlled AI assistant to describe surroundings, enable Google search, make calls, and stream audio.
- Tech Stack:** ESP32-CAM, Flask, Python, Image Processing, Audio Processing.

### Visor Integrated System for Navigation (VISNAV).

- Engineered a smart helmet visor system using ESP32 and YOLOv10 for AR-based real-time hazard detection and navigation assistance. Included GPS integration, crash detection, and comfort-focused UX features.
- Tech Stack:** Image Processing, ESP32, YOLOv10, Python, Flask, IoT, Dataset Annotation.

### Dynamic AI for Real-Time Sight, Haptic and Navigation Assistance.

- Developed an intelligent wearable for visually impaired navigation using depth sensors and haptic feedback. Implemented vision transformer-based scene explanation and conversational AI for autonomous guidance.
- Tech Stack:** Conversational AI, Depth Estimation, Vision Transformers, Embedded Systems.

### Optimized Resource Operations Control by Human-Activity Intervention (OROCHI).

- Designed a real-time human presence and gesture detection system using 24GHz mmWave radar and LSTM. Enables privacy-preserving automation and energy-efficient smart environments.
- Tech Stack:** mmWave Radar (24GHz), ESP32, LSTM, Gesture Recognition

## PUBLICATIONS

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### VISNAV – Visor Integrated System for Navigation

- Developed a real-time visor-based safety system for motorcyclists using ESP32 and YOLOv10 for vehicle proximity alerts and crash prevention.  
Published in *International Journal of Innovative Research in Technology (IJIRT)*, Volume 11, Issue 12.  
[View Publication \(IJIRT\)](#)

## TECHNICAL SKILLS

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**Programming Languages:** Python, C, C++, Rust, Assembly, HTML, CSS, JavaScript, SQL.

**Frameworks & Libraries:** Flask, Tkinter, NumPy, OpenCV, Pandas, Scikit-learn, TensorFlow, PyTorch, Matplotlib

**GenAI & ML:** Transformers, RAG, PyTorch, TensorFlow, HuggingFace, NLP, Software Configuration

**Cloud & DevOps:** Vercel, Docker, GitHub Pages, Jenkins, GitHub Actions, AWS, Azure, REST APIs

**Automation & Web Scraping:** Selenium, BeautifulSoup4, Requests

**Operating Systems:** Windows, Ubuntu, Red Hat, Linux Mint, Kali Linux, Parrot OS, Fedora, Garuda Linux

**Embedded & IoT Tools:** Arduino IDE, PlatformIO, ESP-IDF, MicroPython

## NON-TECHNICAL SKILLS

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Public speaking, leadership, time management, event management, adaptability, critical thinking, problem solving, communication, and technical documentation

## CERTIFICATIONS

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- AI for India by Government of India – August 2022
- Programming in Python – HRT Tech Solutions – Nov 2023
- DevOps and Cloud Fundamentals – Rooman Technologies – May 2025

## ACHIEVEMENTS

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- First Place – CodeRed 2025 National Hackathon, BMSIT
- First Place – Confluence 2025 National Hackathon, PES University
- Best Idea Award – Hackverse 2025, Kristu Jayanti College
- Second Place – Prompathon 2025 National Hackathon, AIT
- First Place – Hackverse 2025, WIET Mumbai
- Second Place – National Techno Exhibition 2025, Dr. AIT
- First Place – Geenovate 2025 National Hackathon, GCET Hyderabad
- First Place – Namma Suraksha 2025 National Hackathon, PES University
- First Runner-up – SIGHT 2.0 2025 Project Expo, UST Kerala

## EDUCATION

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### Dr.AMBEDKAR INSTITUTE OF TECHNOLOGY

Bachelor of Engineering in *Electronics and Communication*

CGPA: 8.12

### Hoysala PU College

Class XII- 95 %

### St Ann's High School

Class X- 96%

## PROFESSIONAL SUMMARY

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Results-driven Electronics and Communication Engineering graduate with hands-on experience in software development, configuration management, and full-stack application deployment. Proficient in Python, Git, CI/CD, and DevOps tools. Proven ability to collaborate in agile environments and deliver robust, scalable software solutions. Strong foundation in SDLC, version control, and software customization. Seeking a role as a **Software Configuration Engineer** to apply skills in configuration planning, customization, and process improvement.