

# HARIHARA SUDHAN R

AI & Full Stack Engineer | Building Scalable, Intelligent, and Impactful Systems

✉ harisudhan2284@gmail.com ☎ +9190475 27108 🔗 [linkedin.com/in/harihara-sudhan-r-71b405258](https://www.linkedin.com/in/harihara-sudhan-r-71b405258)

🐙 [github.com/Harihara04sudhan](https://github.com/Harihara04sudhan) 🔗 <https://harisudhan.xyz/>

## EDUCATION

**Bachelor of Engineering (B.E.) – Computer Science and Engineering**  
Anna University, BIT campus, Tiruchirappalli | CGPA: 8.6 / 10

Nov/2022 – present

## PROFESSIONAL EXPERIENCE

**Founding Full-Stack Engineer(Agent Security)**

12/2025 – Present | United States (Remote)

*ArmorIQ*

- Built **secure backend systems** for **AI agent execution**, implementing **policy enforcement, access control, request validation, and audit-grade logging** to meet enterprise governance requirements.
- Designed and implemented **agent security frameworks** to protect against **unauthorized intent, prompt misuse, and unsafe tool execution**, using **intent classification, runtime policy checks, and permission-scoped actions**.
- Developed the **ArmorIQ SDK** enabling clients to build **secure, compliant, and policy-aware AI agents**, with **authentication, sandboxed execution, configurable guardrails, and safety-by-default controls**.

**AI & Backend Engineer**

07/2025 – 10/2025 | Malaysia (Remote)

*OnlyStack*

- Built **AI messaging agents** for OnlyFans creators, automating client interactions and reducing manual response load by **60%**.
- Developed **Python/FastAPI** services for agent orchestration, persona management, and real-time **LLM-generated** content.
- Designed a **PostgreSQL** interaction pipeline enabling contextual retrieval, message history tracking & user-state management.
- Implemented **safety filters**, quality checks, and analytics hooks to ensure consistent and reliable **agent performance**.

**AI Engineer**

12/2024 – 06/2025 | Dubai(Remote)

*Ionic Protocol*

- Designed a **latency-aware LLM routing system** for DeFi tasks, boosting **throughput & decision accuracy** under heavy load.
- Built a scalable **embedding + retrieval pipeline** with **intelligent caching**, supporting **500+ AI queries/min** with reduced latency.
- Developed **context optimization, fallback reasoning, and output-validation** logic to ensure safe and reliable **agent actions**.
- Created internal **AI tooling** including **FastAPI inference endpoints**, evaluation utilities, and real-time **agent monitoring dashboards**.

**Research Intern**

06/2024 – 08/2024 | India (On-site)

*National Institute of Technology, Tiruchirappalli*

- Researched **deep learning methods** for **tumor classification and segmentation** using **Attention U-Net** architecture.
- Improved model interpretability with **Grad-CAM** visualizations for **explainable AI** insights.
- Achieved **98% segmentation accuracy** on the Medical Decathlon dataset, ranking in the **top 1% of benchmarks**.
- Co-authored a research paper on model architecture and explainability improvements.

**AI Engineer Intern**

09/2024 – 11/2024 | India(Remote)

*Intern-Hub11*

- Developed and optimized **AI-driven intelligent agents** for real-world problem-solving scenarios.
- Implemented **machine learning pipelines** for predictive and classification tasks using **Python** and **PyTorch**.
- Enhanced system performance through **code optimization and modular AI deployment** strategies.

## TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript (ES6+), TypeScript, Java, C, C++
- **Frameworks & Libraries:** FastAPI, Node.js, React.js, Express.js, TensorFlow, PyTorch, Keras, XGBoost
- **Databases:** PostgreSQL, MongoDB
- **Tools & Platforms:** Docker, Kubernetes, Git, REST APIs, Linux, AWS (Basics)
- **Core Expertise:** Full Stack Development, AI/ML Model Integration, RAG Systems, LLM-based Applications, API Design, Scalable System Architecture

## KEY PROJECTS

**SBI LifeSmart – AI-Powered Virtual Insurance Assistant** || **React.js, Node.js, Python (FastAPI), OpenAI API, PostgreSQL, Docker**

- Developed an **AI-based virtual assistant** for SBI Life Insurance using **LLMs** to automate policy queries, document processing, and KYC verification.
- Integrated **multi-modal inputs** and real-time document analysis with **caching and fallback mechanisms**, improving response time by **40%**.
- Designed a **scalable backend architecture** with load balancing and modular AI service orchestration.

### Deep Learning-Based Tumor Detection in Pancreatic MRIs || Python, PyTorch, Attention U-Net, Grad-CAM, OpenCV

- Implemented a **deep learning model** using **Attention U-Net** for precise **tumor segmentation** in pancreatic MRI scans.
- Achieved **98% segmentation accuracy** on the **Medical Decathlon dataset**, ranking in the **top 1% of published benchmarks**.
- Integrated **Grad-CAM** for explainable AI, enhancing model interpretability and clinical trust in 80% of test cases.
- Applied **advanced data augmentation** and normalization techniques for robustness across diverse imaging datasets.

### UJAL – AI-Powered Support Platform for Women in Abusive Situations || React.js, FastAPI, MongoDB, Clerk Auth, OpenAI API

- Developed a **discreet SOS system** using **steganography**, enabling women to send hidden distress signals through everyday images.
- Built an **AI mental health chatbot** and a **legal rights assistant** trained on Indian law to provide confidential emotional and legal support.
- Engineered a **secure full-stack system** with **React (frontend)**, **FastAPI (backend)**, and **MongoDB**, ensuring privacy and data integrity.
- Integrated **Clerk-based authentication** and **AI-powered content moderation** for user safety.

### Intrusion Detection System for IEC-61850 Protocol in Power Substations || Python, React.js, Flask, PostgreSQL, GAN, FCNN

- Developed a **cyber intrusion detection system** for substation networks using the **IEC-61850 protocol**.
- Achieved **95% detection accuracy** with a **Fully Connected Neural Network (FCNN)** and **GAN-based anomaly detection**.
- Reduced false positive rates by **30%** using **SHAP values** for explainability and model interpretability.
- Built a **React dashboard** with **Flask backend** for **real-time network traffic visualization** and alert management.

## CERTIFICATES

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- **Advanced Learning Algorithms** — *DeepLearning.AI* , *Stanford CPD (Coursera)* | Credential ID: 30CB3204GU3
- **Supervised Machine Learning: Regression and Classification** — *DeepLearning.AI* , *Stanford CPD (Coursera)* | Credential ID: 656HM9G5LW
- **Computer Vision with Embedded Machine Learning** — *Edge Impulse*
- **Introduction to Generative AI Studio** — *Simplilearn*

## AWARDS

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- **Runner-Up – Smart India Hackathon (SIH) 2024** | National Level.
- **2nd Runner-Up – IHNA Australia Hackathon 2024** | International.
- **Runner-Up – IIT Roorkee Power System Cybersecurity Hackathon 2024.**
- **Runner-Up – TopCoder Competitive Coding Challenge** | National Level.
- **3rd Place – SBI Life Hackathon 2025** | National Level.