HARIHARA SUDHAN R

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PROFILE

- **Highly motivated and results-driven** Computer Science graduate with expertise in **AI/ML, Deep Learning, and Software Development**.
- Seeking a **challenging role** to apply **technical expertise, research experience, and leadership skills**.
- Passionate about **driving innovation, solving complex problems, and contributing to impactful projects**.
- Committed to **leveraging technology for positive change** and fostering **inclusive communities**.

EDUCATION

Bachelor of Engineering - BE, Computer Science | 8.15 / 10 11/2022 – present
Anna University, Chennai

Class 12th | GPA : 9.15 / 10 06/2021 – 05/2022
Mount Zion Matriculation Higher Secondary School

Class 10th | GPA : 8.78 / 10 06/2019 – 05/2020
Mount Zion Matriculation Higher Secondary School

PROFESSIONAL EXPERIENCE

Research Intern 06/2024 – 08/2024
National Institute of Technology, Tiruchirappalli
- Title : Deep learning based Tumor Classification and Segmentation
- Developed a novel method utilizing Attention Gates in U-Net architecture to enhance classification accuracy and segmentation quality.
- Improved model interpretability by integrating Grad-CAM for explainable AI insights.
- Authored a research paper detailing the methodology and findings of the study.

Campus Ambassador 09/2024 – 11/2024
GirlScript Summer of Code
- Promoted the program and increased participation through outreach and events.
- Organized workshops and mentorship sessions to foster learning.
- Advocated for open-source contributions and diversity in tech.

Intern 11/2024 – 12/2024
Intern-Hub11
- Developed AI models leveraging intelligent agents for real-world applications.
- Gained hands-on experience in AI concepts, problem-solving, and optimization.
- Enhanced skills in AI development and implementation through practical projects.

PROJECTS

Decentralized Crowdfunding DApp
- **Developed a Web3-based crowdfunding platform** using **React.js and Solidity** to enable secure and transparent fundraising.
- **Implemented Ethereum smart contracts** to manage fund collection, goal tracking, and withdrawal processes without intermediaries.
- **Integrated Metamask for user authentication** and secure transactions, ensuring decentralized and trustless contributions.
- **Deployed on a local Ethereum test network** using **Ganache**, enabling real-time tracking and verification of funds.

Fuzzy Name Matching with RAG Search for Police Records 11/2024 – 12/2024
- Developed a RAG-based search system achieving98% accuracyfor Hindi name variations (transliteration, spelling, phonetics).
- Combined fuzzy matching with a retrieval-augmented generation (RAG) model, increasing record retrieval speed by30%.

- Integrated with PostgreSQL for efficient storage and a FastAPI backend, handling 10,000+ real-time queries monthly for enhanced context-aware record retrieval.

Intrusion Detection System for IEC-61850 Protocol in Substations 09/2024 – 10/2024

- Designed an intrusion detection system to detect ingress in substation networks using IEC-61850 protocol achieving95% detection accuracywith a FCNN classifier and GAN for anomaly detection.
- Reduced false positive rates by30%using SHAP values for model transparency.
- Implemented a React dashboard, Flask backend, and PostgreSQL database, supporting24/7 real-time monitoring.

Deep learning-based detection of tumors in Pancreatic MRIs 06/2024 – 08/2024

- Developed a precision model for pancreatic tumor detection using Attention U-Net, achieving75% accuracywhere it shares the rank in the performance of 1% the best on Medical Decathlon dataset.
- Integrated Grad-CAM for explainability, enhancing clinical confidence in 80% of cases

UJAL – AI-Powered Support for Women in Abusive Situations

- Developed an AI-powered platform providing discreet SOS messaging using steganography, enabling women to seek help without raising suspicion.
- Built an AI mental health chatbot to offer confidential emotional support and coping strategies.
- Implemented a legal rights bot trained on Indian law to assist women with abuse cases and legal claims.
- Engineered a FastAPI backend with MongoDB, integrated React-based frontend, and ensured secure authentication using Clerk.

CERTIFICATES

• Advanced Learning Algorithms – DeepLearning.AI, Coursera, Stanford CPD, UV
Credential ID: 30CB3204GU3

• Computer Vision with Embedded Machine Learning – Edge Impul

• Supervised Machine Learning: Regression and Classification – DeepLearning.AI, Coursera, Stanford CPD, U
| Credential ID: 656HM9G5LW

• Introduction to Generative AI Studio – Simplilear

SKILLS

Python	■■■■■	Java	■■■■□
C	■■■■□	JavaScript	■■■■□
TypeScript	■■■□□	React.js	■■■■□
Pytorch	■■■□□	Keras	■■■□□
TensorFlow	■■■□□	XGBoost	■■■□□
PostgreSQL	■■■■□	MongoDB	■■■□□
Docker	■■■■□	Kubernetes	■■■□□

AWARDS

Top 5 Finalist 10/10/2024
Power System Cybersecurity Hackathon 2024 (IIT Roorkee, WRDM

Third Place Winner – TOP CODERS'24 24/04/2024
Sudharsan Engineering College

2nd Runner-Up 15/04/2024
– IHNA Australia Hackathon 2024

LANGUAGES

English	●●●●○	Tamil	●●●●●
Hindi	●○○○○	Malayalam	●●○○○