MUKILAN S

+91 9080399842 ◇ Theni, Tamilnadu, India
mukilan.coder@gmail.com ◇ github.com/MUKILAN-2003 ◇ linkedin.com/in/mukilan2003

OBJECTIVE

I am an AI Specialist and Computer Vision Expert with notable achievements, including winning IndiaSkills 2024 and the Smart India Hackathon in Generative AI. Currently working on cutting-edge computer vision, deep learning, and machine learning projects, I specialize in developing AI-driven solutions to tackle real-world challenges. With strong expertise in building production-grade AI systems, I am committed to pushing the boundaries of innovation in computer vision and artificial intelligence.

SKILLS

Programming Languages: Python, JavaScript

Artificial Intelligence: TensorFlow, PyTorch, Scikit-Learn, CNN, Transformers, Stable Diffusion

Computer Vision: OpenCV, Image Processing, Object Detection, Segmentation, Pose Estimation, OCR

Data Engineering : Pandas, NumPy, SQL, NoSQL, Data Preprocessing, Feature Engineering

Software Development : Git, Linux, REST API Development, FastAPI, Flask, Django, Microservices

Soft Skills: Leadership, Team Collaboration, Problem-Solving, Critical Thinking, Communication, Adaptability

DevOps: MLOps, AWS, Azure, Docker, Kubernetes, CI/CD

EXPERIENCE

Data Scientist Aug 2024 - Present
Wiserstack *New Delhi, India (Remote)*

- Developed an AI-powered system as an alternative to AWS Rekognition for facial recognition and clustering, reducing operational costs by 95%.
- Optimized Docker containers and managed AWS EC2 instances, enhancing system performance and cutting server costs.
- Secured a patent for a proprietary AI system, demonstrating innovation in computer vision and deep learning technologies.

Data Scientist Jul 2022 - Aug 2024
ThirdI Technologies *Chennai, India (Remote)*

- Led the development of proof-of-concept (PoC) AI models for cancer and orthopedic diagnosis, improving diagnostic accuracy.
- Managed the entire AI pipeline, from data collection and preprocessing to model training and deployment.
- Delivered deep learning-based solutions for healthcare applications, leveraging CNNs and computer vision techniques.

Freelance Software Developer Aug 2021 - Present

- Partnered with four businesses across retail, manufacturing, and services, achieving a 100% improvement in operations through scalable software solutions.
- Designed and developed custom E-commerce platforms, ERP systems, and automation tools, reducing operational time and enhancing efficiency.
- Leveraged expertise in web technologies, problem-solving, and business process optimization to deliver tailored solutions that boosted sales and streamlined workflows.
- Led a two-member team with my brother to build and deploy enterprise-grade applications that improved client business performance.

ACHIEVEMENTS

- **Smart India Hackathon (SIH) 2023 Winner** – Led a team to victory in the SIH 2023, developing an AI-powered hydro power plant site selection tool using generative AI and geospatial analysis.
- **IndiaSkills 2024 Silver Medalist** – Secured 2nd place nationwide in the Web Technology category, competing against 50,000+ participants.
- **Tamil Nadu Student Innovators (TNSI) Finalist** – Presented an AI-powered PCB defect detection system, demonstrating innovation in automated quality control.
- **Kaggle Expert & AI Community Contributor** – Achieved Kaggle Notebook Expert rank (Top 500 out of 57,350). Regularly contribute AI/ML projects and research insights to open-source communities.

PROJECTS

Hydro Power Plant Design (Smart India Hackathon 2023 Winner) Developed an AI-powered tool to identify optimal sites for hydro power plants using generative AI, satellite image processing, and geospatial data analysis. Recommended site-specific mechanical and electrical equipment. (View Project)

HuBMAP+HPA Cell Segmentation (Kaggle Competition) Designed deep learning models (UNet, DeepLabv3+, PSPNet) for medical tissue segmentation, improving Dice coefficient and IoU metrics. Processed large-scale TIFF and DICOM datasets with GPU-accelerated training. (View Project)

AI-Powered PCB Defect Detector (TNSI Finalist) Developed a YOLO-based PCB defect detection system for automated quality control in manufacturing. Used CycleGAN for synthetic data generation, improving detection accuracy by 20%. (View Project)

PoseGen (Generative AI Project) Built a deep learning system that modifies human poses in images based on text prompts and environmental constraints. Used keypoint detection, Stable Diffusion, and inpainting for realistic transformations. (View Project)

Carbon Emission Monitoring & Tracking (Blockchain Hackathon Winner) Developed a blockchain-based carbon credit tracking system, implementing automated mint-and-burn equilibrium for transparent carbon credit trading. Deployed on EVM-compatible networks like XDC and Polygon. (View Project)

LEADERSHIP

- **President, iSPIN – College Organization** Oct 2022 – Present
  Managed a team and orchestrated multiple tech events, fostering a thriving tech community within the college. Led the development of a CMS, LMS, event management application, and the college website, enhancing campus-wide communication and efficiency.
- **Chairman & President, IEEE Student Branch (NSCET)** Jan 2024 – Present
  Spearheaded IEEE student activities, promoting technology-driven initiatives, organizing workshops, and leading a team to encourage student engagement in cutting-edge research and innovation.

CERTIFICATIONS

Deep Learning – IIT Ropar (NPTEL) Completed a 12-week course on deep learning frameworks, covering CNN, RNN, and advanced architectures for real-world applications.

Programming, Data Structures, and Algorithms – IIT Bombay (NPTEL) Completed an 8-week course focusing on algorithmic problem-solving using Python.

Python for Data Science – IIT Bombay (NPTEL) Acquired expertise in data processing, visualization, and ML techniques using Python.

EDUCATION

Bachelor of Computer Science with Honors in Data Science 2021 - 2025
Nadar Saraswathi College of Engineering and Technology, Theni - 8.12 CGPA