SURYA A

Vellore | Tamil Nadu | India | GitHub | Portfolio | Linkedin
suryaarumugam2021@gmail.com | 93423 17581

Profile Summary

Junior Data Scientist & AI/ML Engineer with a strong foundation in Electronics and Embedded Systems, skilled in Python, SQL, PyTorch, and Machine Learning. Experienced in building scalable AI/ML pipelines, computer vision models, and predictive analytics solutions. Proficient in YOLO, OpenCV, SAM, data preprocessing, EDA/ETL, and model deployment on platforms like Raspberry Pi. Blend of hardware knowledge and data-driven expertise, making me well-suited for product-based innovation in AI, IoT, and automation.

Education

B.E. – Electronics & Communication Engineering (CSE Specialization)
University College of Engineering, Kancheepuram – **Anna University** 2021 – 2025
CGPA: 7.4 / 10

Work Experience

Python Programming Intern – Antsy **Nov 2024 – Dec 2024**

- Automated workflows and data cleaning tasks using Python, reducing manual effort and errors.
- Performed data analysis, visualization, and reporting using Pandas, Matplotlib, and Seaborn.
- Developed a mini ML project predicting house prices using Scikit-learn.
- Built GUI applications with Tkinter and integrated APIs & web scraping for real-time data.
- Collaborated using Git/GitHub to maintain code quality and version control.

Data Science & Analytics Internships – Deloitte, BCGx, Tata (Forage) **May 2025**

- Conducted EDA, feature engineering, and model evaluation on structured datasets.
- Developed interactive dashboards and optimized SQL queries for efficient data retrieval.
- Applied data-driven problem-solving and analytical thinking in professional settings.

Projects & Research

Brain Tumor Analysis & Diagnosis System | Python, YOLOv12, SAM, ResNet18 Link **Apr 2025**

- Built an end-to-end AI pipeline for MRI tumor detection: classification, detection, and segmentation.
- Applied data augmentation and preprocessing for improved model generalization.
- Evaluated performance using Accuracy, IoU, and Dice Coefficient.
- Optimized deployment on Raspberry Pi for low-resource edge inference.

Automatic Number Plate Recognition (ANPR) | Python, OpenCV, YOLOv8 Link **Jun 2024**

- Developed a real-time ANPR system achieving 93.75% accuracy.
- Performed preprocessing to handle lighting variations and occlusion.
- Deployed edge-AI solution using Raspberry Pi.

English-to-SQL Generator | Python, Google Gemini API, MySQL Link **Jul 2025**

- Built AI-powered SQL query generator for dynamic database schemas.
- Automated query generation and implemented secure database connectivity.
- Integrated API-driven data retrieval for real-time analytics.

Technical Skills

- **Programming & Tools:** Python, SQL, REST API, HTML, Git/GitHub, Jupyter Notebook, Google Colab
- **Libraries & Frameworks:** PyTorch, Scikit-learn, OpenCV, YOLO, SAM, NumPy, Pandas, Matplotlib, Seaborn, Selenium
- **Concepts & Methods**: Machine Learning, Deep Learning, Computer Vision, Object Detection, Image Segmentation, EDA, Feature Engineering, Predictive Modeling, Model Deployment, RAG
- **Electronics**: Circuit Design, Embedded Systems, Raspberry Pi, Sensors & IoT, PCB Prototyping
- **Platforms:** Raspberry Pi, Linux,Windows, Tableau, Power BI

Certifications

- GenAI Powered Data Analytics – **Tata Group** (Forage) May 2025
- Data Analytics Virtual Experience – **Deloitte** (Forage) Jun 2025
- Data Science Intern Virtual Experience – **BCGx** (Forage) Jun 2025

Additional Information

- **Typing: 50 WPM (Certified)**
- Soft Skills: Analytical Thinking, Problem-solving, Team Collaboration, Technical Documentation,Effective Communication
- **Interests: Data Science, AI & ML, Biomedical AI, Autonomous Systems, Analytics-driven problem solving**