ARUMUGA TAMIL SELVAN M

JUNIOR AI ENGINEER

241 B, Srivilliputhur,Tamil Nadu | arumugatamilselvan@gmail.com | +91 8072987300 | linkedin | Github

SUMMARY

AI Engineering student with a strong focus on **Generative AI**, **Large Language Models (LLMs)**, and **Applied Machine Learning**. Skilled in **Computer Vision** and **Deep Learning**, with advanced **Python** proficiency and fundamental knowledge of **C** and **C++**. Experienced in **model training**, **optimization**, and **deployment**, alongside data visualization using Power BI,Tableau, etc. Passionate about building real-world AI solutions with measurable impact. Actively exploring **AI agents**.

TECHNICAL SKILLS

- **Programming:** Python (Advanced), C (Beginner), C++ (Beginner)
- **AI/ML Frameworks:** PyTorch, Scikit-learn, TensorFlow, ONNX
- **Data Science Tools:** NumPy, Pandas, Matplotlib, Seaborn, Plotly, Panel
- **Computer Vision:** OpenCV, YOLOv8, CNNs, Object tracking (Deep SORT, ByteTrack)
- **LLMs & Gen AI:** Hugging Face Transformers, BERT, GPT, LangChain, RAG, Prompt Engineering, Tuning, Embedding, Ollama, vLLM
- **Distributed Computing:** Ray, DeepSpeed
- **AI Agents & Automation:** LangGraph Agents, n8n (No-code AI automation)
- **Deployment & APIs:** Flask, FastAPI (Basic), Streamlit
- **Databases** : MySQL, Microsoft SQL Server,MongoDB,Chroma, Qdrant
- **Developer Tools:** Git, Docker, Jupyter Notebook, VS Code, Google Colab, Anaconda, Cursor

PROFESSIONAL EXPERIENCE & PROJECTS

Junior AI Intern | Digispot AI — Bangalore, India　　　　**April 2025 - July 2025**

- Collaborated on enhancing an **AI Agentic Content Writer** by integrating to improve contextual **accuracy** and **coherence**.
- Applied **SEO optimization** strategies to refine blog content, increasing discoverability and performance across search engines.
- Developed **automated lead generation** workflows for marketing campaigns

Computer Vision Intern | Ramco Cements, Ariyalur　　　　**March 2024 - May 2024**

- Developed a real-time cement bag counting system using image segmentation with **Yolo** and python, OpenCV.
- Achieved **99.8%** accuracy on real-world industrial camera streams.
- Optimized model inference time from **256 ms** to **1-2 ms** using ONNX and **TensorRT**.
- Implemented parallel processing across **16 live camera** feeds using **NVIDIA Ada 4500 GPU**.
- Ensured smooth real-time deployment in a high-throughput industrial production environment.

Computer Vision Intern | Ramco Cements, Alathiyur　　　　**Aug 2024 - Sep 2024**

- Developed a **YOLO-based cement bag detection system** for efficient tracking and monitoring in the factory environment.
- Designed and deployed a **real-time Vehicle Speed Estimation** tool to enhance on-site safety and compliance.

Data Science Intern | Igress Solution, Bangalore   **Nov 2023 - Dec 2023**

- Built end-to-end time-series forecasting pipeline using CSV data, from preprocessing to model deployment.
- Developed models (**Random Forest, XGBoost, LSTM, Markov**) achieving 99% accuracy, capturing **directional trends** and **peaks**.
- Analyzed 20+ years of fatality data to identify escalation patterns and inform strategic insights.

Data Analytics Intern – Ramco Institute of Technology   **April 2024**

- Built an **interactive data visualization dashboard** for 2023 college admissions using Power BI and Python, enabling real-time insights for administrators.
- Managed and processed structured admission data with SQL and phpMyAdmin; integrated outputs into the ERP portal for live analytics access.

AI Intern – Ramco Institute of Technology   **Oct 2024 – Dec 2024**

- Developed an **AI-powered recommendation system** using the Gemini API to suggest job roles on the college placement portal based on student profiles.
- Automated job scraping and content updates to keep the placement platform current, boosting relevance and personalization for student opportunities.

AI Intern – RD Labs (Coding Platform)   **Feb 2025 - April 2025**

- Developed an **AI-driven personalized coding question generator** using Gemini API, **LangChain**, and **vector databases**.
- Designed LangChain agents to analyze student coding history and context, enabling dynamic and adaptive question set generation.

Other Experiences:

AI Contributor – Mentron LMS
- Collaborated with a college senior on their early-stage startup to **co-develop a scalable AI-driven LMS** using modular nodes, intelligent agents, and vectordb-based systems.

Computer Vision Intern – Eden Berg
- Built a **real-time malpractice detection system** using **MediaPipe** and OpenCV to track students via webcam during online exams.

LLM Cluster Dev – RIT Lab
- Set up an RTX 4060 GPU **cluster** using **Ray** & **DeepSpeed** to enable **distributed LLM** training and **inference** across lab nodes.

Medical Imaging Project
- Created a **YOLO-based kidney stone detection** model achieving 95%+ accuracy; handled annotations and inference tuning.

BI Intern – Yesget Graphics
- Designed a **live Power BI dashboard for real-time worker tracking** using SQL and Python, boosting factory monitoring efficiency.

EDUCATION

Bachelor of Technology in Artificial Intelligence & Data Science | Ramco Institute of Technology
CGPA: 8.31 / 10
Expected Graduation: 2026

Higher Secondary Education (HSC) | St Joseph RC Higher Secondary School
Percentage: 84.6%
Completed: 2022

CERTIFICATIONS

- **Python Certification** – MIMO, 2022
- **SQL Certification** – MIMO, 2023
- **Certified Power BI Analyst** – Forsage, 2023
- **5-Star Python Proficiency Badge** – HackerRank, 2022
- **Top AI Voice** – LinkedIn Recognition - 2024
- **Best Borrower of RIT Library** - 2023
- **Best Library User – RIT Library** 2023

ADDITIONAL INFORMATION

- **Languages:** English, Tamil
- **Soft skills :** Adaptability**,**Teamwork, Problem-solving,, Time Management
- Attachments