

# Shyam J

AI/ML Engineer & Full Stack Developer

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## Professional Summary

Results-driven AI/ML Engineer with expertise in developing end-to-end machine learning systems, generative AI applications, and full-stack solutions. Proven track record in implementing NLP-based troubleshooting systems, RAG-powered chatbots, and computer vision applications.

## Research Interests

Computer Vision, Deep Learning, Representation Learning, Reinforcement Learning, Efficient and Accelerated Machine Learning, Generative Models, Applied Statistics, Natural Language Processing, Digital Twin Systems, Computer Vision for Industry 4.0, Cloud-Based AI Deployment, and AI-Powered Automation.

## Technical Skills

**Languages:** Python (Advanced), C (Intermediate), Java (Basics), TypeScript, JavaScript, SQL, Dart

**Frontend:** HTML5, CSS3, React.js, Next.js 14, Tailwind CSS, Bootstrap

**Backend:** Node.js, Flask, Express.js, RESTful APIs

**AI/ML Frameworks:** PyTorch, TensorFlow, Keras, RAPIDS (cuDF/cuML), Scikit-learn, Hugging Face, FAISS, OpenCV, NLTK

**Data Science & Analytics:** Pandas, NumPy, Matplotlib, Seaborn, SPSS, Statistical Analysis, Hypoth-

esis Testing, RAPIDS cuML, Power BI

**Cloud & DevOps:** AWS, Oracle Cloud, Docker, Git, GitHub, CI/CD, Serverless, Streamlit, Vercel

**Databases:** MongoDB, SQLite, Redis

**Tools & Libraries:** Jupyter, VS Code, Postman, AutoCAD, Canva, Figma, Beautiful Soup, PyTesseract, Pygame

**Domains:** Machine Learning, Deep Learning, Generative AI, Computer Vision, NLP, Reinforcement Learning, Digital Twin, Statistical Modeling

## Professional Experience

Jun 2024 – **Student Coordinator (HR / Administrative Coordinator)**, *Sentient Scripts*, Remote

Jun 2025 **University Collaboration Initiative:**

- Acted as the primary POC between Sentient Scripts and SRM University for academic collaborations.
- Consolidated student profiles, managed shortlisting, and scheduled interviews.
- Oversaw engagement and ensured progress across multiple project batches.

Dec 2024 – **Student Intern**, *Chennai Metro Rail Limited (CMRL)*, Chennai, India

Present **AI-Driven Troubleshooting System:**

- Extracted fault codes from PDF manuals using NLP with 95% accuracy.
- Implemented FAISS semantic search with Gemma 2B LLM for contextual insights.
- Built Streamlit interface serving 50+ daily internal users.

Apr 2024 – **Student Intern (AI/ML Engineer)**, *Sentient Scripts*, Remote

Oct 2024 **Weather Chatbot with RAG:**

- Developed Retrieval-Augmented Generation chatbot with 89% user satisfaction.
- Integrated OpenWeatherMap API with LLMs, reducing response latency by 45%.
- Created Streamlit dashboard that increased engagement by 25%.

- Apr 2024 – **Student Intern (AI/ML Engineer)**, *Renault Nissan Automotive India Pvt. Ltd.*, Chennai,  
Oct 2024 India
- Heavy Repair Management System:**
- Designed role-based access for 200+ workshop employees.
  - Improved efficiency by 28% and reduced repair turnaround by 22%.

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## Education

**B.Tech in Artificial Intelligence**, *SRM Institute of Science and Technology*, Kattankulathur, India, CGPA: 7.5/10.0  
Ongoing

**Coursework:** Machine Learning, Deep Learning, Computer Vision, NLP, Data Structures & Algorithms, Database Systems, Software Engineering, Reinforcement Learning, Cloud Computing

**Grade 10 and Grade 12**, *St. Michael Academy*, Chennai, India  
Grade 10: 74%, Grade 12: 64%

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## Certifications

- Professional Generative AI Professional (2024), Oracle Cloud Infrastructure GenAI (2024)
- Online Machine Learning (Stanford), Deep Learning (Andrew Ng), Python for Data Science (IBM), React.js Fundamentals (Meta)

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## Research and Projects

- Feb 2025 – **Edu Smart Bot**, *AI-powered Educational Assistant*, Technologies: Python, NLP, Flask,  
Jun 2025 React.js, PostgreSQL
- Built AI assistant integrating OCR, summarization, and context-based Q&A.
  - Implemented transformer pipeline (BERT, T5) for educational content summarization.
- Feb 2025 – **Self-Driving Car AI Simulation**, *Autonomous Driving Simulator*, Technologies: PyTorch,  
Jun 2025 Unity3D, CUDA
- Implemented Deep Q-Learning for lane detection and navigation.
- Feb 2025 – **Image Captioning System**, *Vision-Language Model*, Technologies: PyTorch, CNN, LSTM,  
Jun 2025 MS COCO
- Designed CNN-RNN model with attention achieving BLEU-4 score of 0.32.

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## Hackathon Achievements

- **Hackstreet 3.0 (2025)** — 1st Place for real-time AI automation system with vision analytics.
- **Appathon 2.0 (2025)** — Winner for AI-driven productivity application (150+ teams).
- **Tamizh-A-THON 1.0 (2025)** — Winner for Tamil OCR & NLP innovation under SRM TCC.

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## Leadership Experience

- 2025 – **President**, *NEXT GEN AI, SRMIST KTR*
- Present ○ Directed strategic initiatives for 400+ members and coordinated industry partnerships.
- 2024 – 2025 **Vice President**, *NEXT GEN AI, SRMIST KTR*
- Led 350+ members, organized 5 flagship events, and managed 1,00,000 annual budget.
- 2023 – 2024 **Technical Lead**, *AI Research Group*
- Supervised 8-member research team and managed multiple industry hackathons.
- 2023 – 2024 **Research Member**, *Cintel Students Association, SRMIST KTR*
- Conducted AI research and mentored peers in emerging technologies.

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## Additional Information

Languages	English (Fluent), Tamil (Native), Hindi (Conversational), Telugu (Fluent)
Professional Skills	Leadership, Team Management, Problem Solving, Critical Thinking, Communication, Time Management
Technical Interests	AI Research, Open Source Contribution, Technical Writing, Public Speaking
2024 – 2025	<b>In-House Research Projects</b> , <i>Tamil Computing Centre (TCC)</i> , SRMIST, Chennai, India Developed Tamil Language Models, CNN-based OCR pipelines, and AR/VR literature visualizations in collaboration with INFITT and SRM Department of Computational Intelligence.
Expected 2025	<b>Publication</b> Preparing paper titled <i>"Efficient Fault Analysis in Industrial Systems using AI"</i> .
Ongoing	<b>Volunteer Work</b> Mentoring students in AI literacy and contributing to open-source AI projects.