

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.

Technical Skills

Frontend: HTML5, CSS3, ReactJS, JavaScript, OpenCV
Bootstrap

Backend: Node.js, Flask, Express.js, RESTful APIs, CI/CD

Languages: Python (Advanced), C (Intermediate), Java (Basics)
Databases: MongoDB, SQLite, Redis

ML/AI: PyTorch, TensorFlow, Keras, HuggingFace, **Tools:** Power BI, AutoCAD, Canva, Figma
FAISS **Domains:** ML/DL, Generative AI, Computer Vision, NLP

Data Processing: Pandas, NumPy, Scikit-learn,

Professional Experience

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

Jun 2025 **University Collaboration Initiative:**

- Acted as the primary Point of Contact (POC) between Sentient Scripts and SRM University for project coordination and communication.
- Consolidated student profiles, scheduled interviews, and coordinated candidate shortlisting for corporate collaborations.
- Managed student engagement throughout project duration, ensuring timely progress and quality deliverables.
- Assisted the Sentient Scripts team during university visits, facilitating discussions and addressing project requirements.
- Oversaw administrative activities aligned with university-industry collaboration goals.

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

Present **AI-Driven Troubleshooting System:**

- Engineered system extracting fault codes from PDF manuals using NLP, achieving 95% accuracy and reducing troubleshooting time by 40%.
- Implemented semantic search via FAISS and HuggingFace, integrating Gemma 2B LLM for accurate responses.
- Built Streamlit UI serving 50+ daily users with dynamic abbreviation mapping.

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

Oct 2024 **Weather Chatbot with RAG:**

- Developed Generative AI chatbot using Retrieval-Augmented Generation, achieving 89% user satisfaction and 60% engagement improvement.
- Integrated LLMs with OpenWeatherMap API, reducing response time by 45% and handling 1000+ daily requests.
- Implemented Streamlit interface and analytics dashboard, resulting in 25% increase in daily active users.

- Apr 2024 – **Student Intern (AI/ML Engineer)**, *Renault Nissan Automotive India Private Limited*,
Oct 2024 Chennai, India
Heavy Repair Management System:
- Implemented secure role-based access system supporting 200+ concurrent users.
 - Developed workshop management features improving efficiency by 28% and mechanic performance tracking reducing repair time by 22%.
 - Created RESTful APIs and comprehensive reporting dashboard for performance monitoring.

Education

- Jun 2022 – **BTech in Artificial Intelligence**, *SRM Institute of Science and Technology*, Kattankulathur, India, CGPA: 7.5/10.0
May 2026 Ongoing
- Coursework: Machine Learning, Deep Learning, Computer Vision, NLP, Data Structures & Algorithms, Database Systems, Software Engineering, Neural Networks, Reinforcement Learning, Big Data Analytics, Cloud Computing
- 2018 – 2020 **Grade 10 and Grade 12**, *St. Michael Academy*, Chennai, India
Grade 10: 74%, Grade 12: 64%

Certifications

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

Research and Projects

- Feb 2025 – **Edu Smart Bot**, *AI-powered Educational Assistant*, Technologies: Python, NLP, Flask,
Jun 2025 React.js, PostgreSQL
- Built an intelligent AI assistant integrating OCR, content summarization, and context-based Q&A systems.
 - Developed NLP pipeline using transformer models (BERT, T5) for topic extraction and summarization.
 - Designed Flask API backend and React-based dashboard with integrated analytics.
 - Achieved 94% accuracy and 87% user satisfaction from test deployment across academic datasets.
- Feb 2025 – **Self-Driving Car AI Simulation**, *Autonomous Driving Simulator*, Technologies: PyTorch,
Jun 2025 OpenAI Gym, Unity3D, CUDA
- Implemented reinforcement learning (Deep Q-Learning) for autonomous vehicle control with CNN-based vision input.
 - Integrated OpenCV lane detection, real-time collision avoidance, and continuous track simulation.
 - Optimized training performance with GPU acceleration and adaptive reward shaping.
- Feb 2025 – **Image Captioning System**, *Deep Learning-based Vision-Language Model*, Technologies:
Jun 2025 PyTorch, CNN, RNN, LSTM, MS COCO Dataset
- Designed CNN-RNN encoder-decoder with attention mechanism for semantic image captioning.
 - Used ResNet as feature extractor and LSTM decoder for sequential caption generation.
 - Implemented beam search for caption optimization, achieving BLEU-4 score of 0.32.

Leadership Experience

- 2025 – **President**, *NEXT GEN AI, SRMIST KTR*
- Present ○ Directing the organization's overall strategy, overseeing 400+ members and fostering key industry partnerships.

- 2024 – 2025 **Vice President, NEXT GEN AI, SRMIST KTR**
○ Led 350+ members, organized 5 events, managed a Rs. 1,00,000 budget, and drove a 40% membership growth.
- 2023 – 2024 **Technical Lead, AI Research Group**
○ Led a team of 8 researchers in AI solutions development and coordinated with industry partners on hackathons with 350+ participants.
- 2023 – 2024 **Research Member, Cintel Students Association, SRMIST KTR**
○ Researched emerging AI technologies, conducted technical workshops, and mentored students.

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 **In-House Research Projects, Tamil Computing Centre (TCC), SRMIST, Chennai, India**
Completed three in-house applied research projects under the Tamil Computing Centre (TCC), in collaboration with the International Forum for Information Technology in Tamil (INFITT) and the Department of Computational Intelligence, SRMIST. The work involved:
- Developing Tamil Language Models (TLM) for question answering and contextual understanding using transformer-based architectures.
 - Designing Optical Character Recognition (OCR) pipelines for Tamil text digitization and preprocessing using CNN-based models.
 - Building Augmented and Virtual Reality (AR/VR) frameworks for immersive Tamil literature visualization using Unity3D and Blender.
 - Contributing to dataset curation, annotation, and UI/UX optimization for Tamil computing applications.

Expected **Publication**

2025 Currently preparing the paper "*Efficient Fault Analysis in Industrial Systems using AI*" for submission.

Ongoing **Volunteer Work**

Mentoring underprivileged students in AI literacy programs, contributing to open-source AI tools, and supporting AI awareness initiatives.