



Hanumanthu Harsha Vardhan

AI Agent Automation Engineer



Profile

I work on developing practical AI systems that combine automation, multi-agent collaboration, and intelligent workflows. My experience includes building computer vision pipelines, RAG-based knowledge retrieval systems, and workflow automation setups using tools such as n8n, Make, Zapier, and local LLM frameworks. I focus on building stable, explainable, and scalable AI-driven solutions that integrate well into real industrial and business environments.



Work Experience

Present
↑
Aug 2025

Master Thesis Project – Multi-Agent System for Root Cause Analysis

Siemens AG, Amberg

- Developing a multi-agent system for automated root cause analysis in manufacturing.
- Implementing agents for perception, reasoning, retrieval, and decision support.
- Integrating local LLMs, retrieval pipelines, and reliability metrics used in industrial production.

Mar 2025
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Jan 2025

Computer Vision Intern

Siemens AG, Amberg

- Built a vision-based AI agent for PCB inspection using CNNs and real-time image processing.
- Designed an end-to-end workflow combining computer vision, Python logic, dashboards, and automation tools such as n8n and Zapier.
- Improved defect detection accuracy and reduced manual QA work through automated processing.
- Experimented with modular agent architectures inspired by LangGraph.

Apr 2025
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Aug 2024

Student Research Assistant – AI and Automation

Institute FAPS, Nuremberg

- Developed a RAG system for industrial knowledge retrieval using local embedding models.
- Integrated trustworthiness and verification metrics for industrial decision support.
- Worked on retrieval pipelines, prototype agent workflows, and reliability evaluation.

May 2022
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Sep 2021

Senior Executive – Data Analytics

IndiaMART InterMESH Ltd.

- Optimized SQL queries, shell scripts, and Python automation workflows.
- Performed data analysis for BI reporting using Python and Tableau.
- Automated scheduled job validations and reporting checks, reducing manual workload.



Contact



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Skills

AI and Agentic Systems:

- LangChain, LangGraph, LLM pipelines, multi-agent systems, workflow agents

Automation Tools: n8n, Make, Zapier, API integrations, workflow automation

- **Programming:** Python, C++, C, SQL, MATLAB

- **Data Science:** NumPy, pandas, PySpark, scikit-learn, SciPy

- **Computer Vision:** OpenCV, CNNs, image processing, detection pipelines

Cloud and Data Platforms:

- Databricks, Linux/Unix, MySQL, Teradata, Azure

- **Tools:** Docker, Git, VSCode, Local LLMs (Ollama)

- **Soft Skills:** Adaptability, teamwork, problem-solving



Languages

English

Fluent

German

Intermediate



Certifications

- Google Data Analytics
- IBM – Introduction to Artificial Intelligence

Feb 2021 ●
↑
Jan 2020

Project Coordinator – Data and Systems

RT Vision Technologies Pvt. Ltd.

- Managed ERP system data and reduced system downtime through structured processes.
- Supported decision-making with data analysis across multiple departments.
- Designed templates and reporting formats that improved project turnaround time.

- University of Michigan – Python for Everybody
- Advanced Microsoft Excel
- PLC Programming



Education

Oct 2025 ●
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Oct 2022

Master of Science – Electromobility (ACES)

FAU Erlangen–Nürnberg

Specialization fields:

- AI and Autonomous Driving, Battery Management, Connectivity, Sustainable Mobility, Production Technology

May 2019 ●
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Jun 2015

Bachelor of Technology – Mechanical Engineering

SRM University



Projects

2024 ●

Agentic AI Workflows using LLAMA 3.1, Auto-Gen, and LangGraph

- Developed multi-agent workflows for business process automation using n8n, custom Python agents, and local LLMs.
- Improved efficiency through automated task routing, document parsing, and workflow triggers.

2023 ●

Deep Learning Model for Fake Image Detection

- Built a CNN-based classifier for detecting fake images and evaluated performance using ROC curves and confusion matrices.
- Implemented preprocessing and data augmentation using TensorFlow and Keras.