

# SATVIKA EDA

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## Education

<b>Northeastern University</b>	Boston, MA
Master of Science (MS) - Artificial Intelligence	09/2023 - 12/2025
• Foundations of AI, Design Paradigms, Natural Language Processing, Algorithms, Machine Learning, Pattern Recognition & Computer Vision, AIHCI, Data Mining	
<b>G Narayanaamma Institute of Technology and Sciences</b>	Hyderabad, India
Bachelors of Technology - Computer Science	08/2017 - 06/2021

## Experience

<b>Dassault Systèmes</b>	Boston, United States
ML Engineer Intern	08/2024 - 12/2024
• Designed and deployed an AI-driven chatbot leveraging LangGraph Agents to dynamically route REST API queries, automating 80% of project planning workflows and improving operational scalability	
• Built a multi-agent routing framework with an entry-point agent that interprets user intent and delegates tasks to specialized downstream agents, achieving 95% routing accuracy and end-to-end autonomous query handling	
• Engineered a Task Decomposition System using LangChain and LangGraph, improving project management efficiency by 30% and reducing manual workload by 40% through advanced multi-agent orchestration	
<b>JPMorgan Chase</b>	Hyderabad, India
Software Engineer	08/2021 - 08/2023
• Engineered and deployed a language-agnostic smart SDK upgrade module, resulting in a patent (12223309) and increasing successful SDK upgrades by 15% without requiring manual intervention by customers	
• Innovated by crafting recipes that seamlessly automate JDK upgrades, thereby contributing to the esteemed 'Open Rewrite' open-source software development for over 100 products with 90% of upgrade automated in the firm	
• Spearheaded the design, development workflow and publication of AWS proof-of-concept applications in data centers, and shared valuable knowledge for more than 500 product teams along with documentation on confluence	
• Launched a JDK automation tool with telemetry and also integrated in the pipeline to facilitate stable version migrations used by over 45 products	
• Structured AWS projects such as S3 utility, providing comprehensive reporting on bucket and object information, benefiting approximately 470 products	
Software Engineer Intern	03/2021 - 07/2021
• Operationalized 10+ scalable Java microservices with unit testing and database on private cloud operations to meet functional and business requirements	
• Initiated a suite of utilities, including a Light Switch utility using shell scripting, cutting down downtime by 70% and resulting in 500 lines of code	
• Collaborated with cross-functional teams across five lines of business to gather requirements and implement solutions with SDLC and Agile Development	

## Projects

<b>Stroke-Based and Free-Form Image Colorization</b>	03/2025 - 04/2025
• Developed an end-to-end image colorization pipeline using free-form and stroke-based methods, achieving 3 images/sec inference on NVIDIA T4 GPU	
• Implemented and benchmarked Autoencoder, U-Net, ResNet18-UNet, GAN, Stable Diffusion v1.5, and ControlNet, improving PSNR by approximately 12% over baseline models and reducing hallucinations by 30%	
• Designed and trained a custom stroke-guided dataset containing 63k images and a U-Net with ResNet34 encoder, enabling controllable, high-fidelity color propagation	
<b>Multi Agent Code Development Team</b>	01/2025 - 04/2025
• Built a modular multi-agent system (Planner, CoT, Developer, Debugger, Explainer) with LangGraph for code generation improving correctness & interpretability	
• Applied teacher-student distillation (Qwen2.5-7B to 0.5B) and PPO-based RLHF/RLAIF, improving code readability by 10 points and reducing debugging time by 3 hours/week via a Streamlit feedback UI	
<b>RAG-based Chatbot for Document Querying using LangChain and Streamlit</b>	06/2024 - 06/2024
• Orchestrated a semantic search solution utilizing LangChain and GPT-4 to analyze user intent, increasing the accuracy of extracted data from PDFs by 12%	
• Implemented semantic similarity to identify relevant document chunks and user intent before response generation. Employed Streamlit library for user interaction platforms, and used Gen AI GPT-4 to refine responses and display to user	
<b>Accelerated Web Development via LLM Fine-Tuning and Prompt Engineering</b>	02/2024 - 04/2024
• Fine-tuned and trained on large language model by data processing on web-crawled datasets to produce personalized web pages, reduced development time and increased user retention by 15% through optimization techniques	
• Remodeled on Falcon, Meta's Llama, and CodeLlama LLMs using A100 GPU cluster with CUDA architecture optimization; achieved 30% faster analysis and precise context of HTML/CSS output for web development	

## Skills

Python, Java, C++, SQL, HTML, CSS, JavaScript, MySQL, JSON, GraphQL

AI & ML: Machine Learning, Deep Learning, Reinforcement Learning, NLP, Neural Networks, Supervised Learning, Transformers, Statistical Modeling, LLMs, LangChain, LangGraph, ChromaDB, Data Science, Multimodal LLMs, BERT, Data Analysis, Google ADK, MLflow, Kubeflow, Agent Development, Predictive Modeling, Tensorflow, PyTorch, Keras, Scikit-learn, NumPy, Pandas, Matplotlib, SciPy, XGBoost, Tableau, Neo4j

Others: AWS, SageMaker, Bedrock, EKS, EC2, Google cloud, Google Kubernetes, Azure, Docker, CI/CD, Jenkins, Terraform, Kubeflow, RDS, Vertex AI, MLOps, Linux, REST API, FASTAPI, Design Patterns, Software Engineering, DevOps, OOP, Git Version control, GitHub, Jira, React, Spark, Kafka, Agile Environments, Cloud Computing