

Maitreya Darokar

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EDUCATION

Northeastern University - Khoury College of Computer Science , Boston, MA <i>Master of Science in Artificial Intelligence</i> Relevant courses: Foundation of AI, Algorithms, Human Centered AI Development, Machine Learning, NLP	<i>Jan 2024 - Dec 2025</i>
Maharashtra Institute of Technology - WPU , Pune, India <i>Bachelor of Technology in Computer Science and Engineering.</i> Related courses: Machine Learning, Data Structures, Database Management, Big Data	<i>Jul 2017 - May 2021</i>

SKILLS

Languages: Python, Java, TypeScript, SQL, C++
AI, ML: Generative AI, RAG Systems, Natural Language Processing, Computer Vision, Semantic Search
Libraries: PyTorch, TensorFlow, Keras, LangChain, Hugging Face, Transformers, Scikit-learn, NLTK, Pandas, Numpy, OpenCV
Developer Tools & MLOps: AWS (Lambda, Bedrock, CDK, DynamoDB), CI/CD, Serverless Architecture, Infrastructure as Code (IaC), Docker, Vector Databases (ChromaDB), FastAPI, Git, Agile, Jira, Postman
Cloud & Data: AWS, Microsoft Azure, Data Analytics, PowerBI, Power Automate

PROJECTS

Serverless RAG Document Intelligence System	<i>May 2025</i>
<ul style="list-style-type: none">Architected a production-grade, serverless RAG system enabling organizations to "chat with their files," providing natural language access to private documents.Engineered a highly scalable, asynchronous query system using dual AWS Lambda functions (Docker) and DynamoDB for fault-tolerant state management, ensuring high responsiveness for concurrent users.Achieved sub-second semantic search by implementing ChromaDB with Amazon Titan embeddings and Meta Llama 3 (70B).Built and deployed the entire system as a RESTful API (FastAPI) using Infrastructure as Code (IaC) with AWS CDK and TypeScript for robust, repeatable deployments.	

SemEval 2024 – Multimodal Detection of Persuasive techniques in Memes	<i>Sept 2024 - Dec 2024</i>
<ul style="list-style-type: none">For the SemEval 2024, Meme Persuasion Detection Task, built a classifier to detect propaganda in memes by fusing ResNet (Vision) and BERT (Text) embeddings, allowing the system to analyze both image and caption context simultaneously.Engineered the model to categorize memes into 22 granular persuasion techniques, utilizing Weighted BCE Loss to handle class imbalance within the complex label hierarchy.Developed a high-recall binary model to flag memes as "Propaganda vs. Non-Propaganda," creating an effective first-pass filter for automated content moderation.	

WORK EXPERIENCE

Michelin, Pune, India Developer Analyst	<i>July 2021 - Jan 2024</i>
<ul style="list-style-type: none">Engineered an automated data pipeline to ingest, process, and analyze HR data, culminating in role-based PowerBI dashboards to track employee attrition and hiring trends.Saved over 150 hours of manual processing annually and provided key metrics for strategic decision-making.Deployed a scalable automation solution using Power Automate and Oracle APIs for financial data processing, eliminating over 350 manual hours annually by streamlining financial closure procedures.Led a technical enablement program training 70+ developers per session on building scalable workflows and API integrations, reducing operational manual work by 35%.	

Centre for Development of Advanced Computing (C-DAC), Pune, India Computer Science Intern	<i>May 2020 - July 2020</i>
<ul style="list-style-type: none">Developed a 'Reverse Face Image Search' program using OpenCV and fine-tuning CNN, achieving 92% accuracy on over 10,000 images from Times of India, a news media organization.Engineered an automated image tagging system to associate names with recognized faces, significantly improving search efficiency for the organization.	

AWARDS & RECOGNITION

Vendout – Startup Project (Ministry of Education, India - Innovation Challenge)
<ul style="list-style-type: none">Collaborated on developing an Android app and a web portal connecting small-scale businesses with customers, implementing secure digital payment gateways and enhancing online presence for local vendors.

Michelin India, Pune India
<ul style="list-style-type: none">Winner, Michelin Innovation Labs Hackathon (2022), built data-driven automation solution adopted org-wide.