

# Karthek Yakkala

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## Education

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### Master's in Computer Science

University of Central Missouri

Aug 2023 - Dec 2024

Relevant Coursework: Advance Algorithms, Artificial Intelligence, Cloud Computing

**GPA : 3.66**

### Bachelor of Technology, Electronics and Communications Engineering

Jawaharlal Nehru Technological University Hyderabad

Aug 2017 - Jul 2021

Relevant Coursework: Operating systems, Computer Networks, Digital Image Processing

**GPA : 3.77**

## Skills

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**Programming Languages :** Python, Java, SQL, R, Bash

**Technologies :** Machine Learning, Natural Language Processing, Large Language Models(LLMs), Generative AI

**DevOps :** Continuous Integration and Deployment, Docker, Kubernetes, Helm charts, Jenkins, Github Actions

**Frameworks and Databases :** PyTorch, LangChain, React, MongoDB, MySql

## Work Experience

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### Tata Consultancy Services(TCS)

Machine Learning Operations (MLOps) Engineer

Jul 2021- Aug 2023

**Client:** Albert Heijn

- Worked on building end-to-end ML model that automatically resolves 30% of incidents raised in ServiceNow, reducing their manual resolution time by over 95%. Technologies: Python, Machine Learning.
- Achieved an 95% accuracy rate in incident prediction by applying Random Forest and Support Vector Machine algorithms.
- Integrated ML application with MongoDB using Pymongo to manage and store 10,000+ tickets.
- Migrated on-premises monolithic ML application to Azure cloud as separate modules using microservices and container architecture, which resulted in 20% reduction of infrastructure cost. Technologies: Docker, Kubernetes, Azure DevOps.
- Implemented Continuous Integration and Continuous Deployment processes, which increased deployment speed and efficiency by 30% .
- Worked in agile and collaborated with cross-functional teams by using tools like Jira and Confluence to track and prioritise tasks.
- Worked on Chatbot using Rasa framework and NLP models like Spacy and BERT for the users to create, update, view tickets in ServiceNow.

### Cognizant Technology Solutions

Programmer Analyst Trainee (Intern)

Feb 2021- Jun 2021

- Worked on development of an application using HTML, CSS, JavaScript.
- Worked on building Bus reservation application using React.

## Projects

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**Chat with your docs** Developed a LLM and Gen AI powered context aware application using Retrieval-Augmented Generation (RAG) technique, that uses provided knowledge base as context.

**Technologies:** HuggingFace, Transformers, ChromaDB, LangChain, Vector DBs, Semantic search, Generative AI, Large Language Models (LLMs). [Project Link](#)

## Open-source contributions

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**LangChain:** Contributed to the development and documentation of largest LLM and Generative AI framework. [Repository](#), [Commits](#)

**LLamaIndex:** Contributed to the documentation of Gen AI framework. [Repository](#), [Commits](#)

**PandasAI:** Contributed to the development of LLM project. [Repository](#), [Commits](#)

### Achievements and activities

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- Received **On The Spot** award from TCS for making architect changes to decommission few servers and migrate them to azure cloud, resulted in a 40% reduction in project budget.
- Wrote blogs on Large Language Models and Generative AI applications. ([Link](#))
- Received Merit Certificate from Government of India for scoring a perfect GPA of 10 in 10th grade.

### Certifications

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- Microsoft Certified: DevOps Engineer Expert (AZ-400). [Certificate](#)
- Microsoft Certified: Azure Administrator Associate (AZ-104). [Certificate](#)
- Microsoft Certified: Azure Fundamentals (AZ-900). [Certificate](#)

### Interests and hobbies

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- Trends in large language models and artificial intelligence, monitoring financial markets.