

Karthick Thangadurai

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Summary

With a robust background spanning over 9 years, actively contributing to various projects in Data Analysis, Machine Learning, Computer Vision, Natural language processing, Generative AI and cloud services and have garnered diverse experience across industries, including Automotive and Lifestyle Brands.

Skills

Languages Python, SQL, NoSQL
Visualization Seaborn, Matplotlib, Plotly, PowerBI
Data Collection Selenium, BeautifulSoup

Frameworks Machine Learning, Scikit-Learn, NLP
Cloud Azure AI Studio, AWS
GenAI LLM, HuggingFace, LangChain, LangSmith

Experience

Guvi Geek Network, Chennai-India

Data Science Specialist & Tech Lead - Placements

Oct 2023 – Present

- Created detailed reports and interactive dashboards to visualize key performance indicators (KPIs) for courses, instructors, and student engagement, facilitating data-driven decision-making for management.
- Utilized clustering algorithms to segment students based on learning patterns and preferences, enabling personalized learning paths that increased **student satisfaction by 30 percent**
- Collaborated with the product team to implement learning analytics features, providing real-time insights to students and instructors and improving the overall learning experience by providing actionable insights
- Increased the student placement rate successfully by **200 percent** by facilitating over 50 placements in a single month

Data Science Specialist

Aug 2022 – Sep 2023

- Developed an automated reporting system that reduced manual data processing time by **70 percent**
- Analyzed student performance data by gathering and aggregating data from various sources like Zoho, LMS portals to identify learning gaps and optimize curriculum delivery, resulting in a 15 percent improvement in overall test scores
- Trained and provided **career guidance for over 5000 students** from diverse disciplines across India
- Developed predictive models using machine learning algorithms to forecast student dropout rates, enabling early intervention strategies that **reduced attrition by 20 percent**

Habeeb Tanning Technology, Vellore-India

Head - Leather Finishing Operations

Dec 2021 – Mar 2022

- Led a team comprising 10 employees and 200 workers to achieve a **100 percent On-Time-In-Full (OTIF)** performance
- Ensured quality assurance and **reduced rejection by 5 percent** by analyzing past and recent production processes
- Created **manufacturing time analysis** of end to end leather manufacturing process to identify bottlenecks
- Implemented successfully separate manufacturing process line for furniture leather

Tata International Ltd, Dewas-India

Finishing In-Charge, Research and Development

Jun 2015 – Dec 2021

- Developed products tailored for various OEMs including **Renault, Nissan, Hyundai, Tata Motors, Maruti and Honda**
- Pioneered the **development of aircraft leather**, marking the first achievement of its kind in India
- Provided technical support and contributed to the successful development of leather for Diesel, specifically for the High Performance Biker Garments project and also developed spring season Biker Garments for Alpine Stars, Italy
- Proficient in utilized core quality tools such as **FMEA, APQP, PAP, SPC, and MSA** to ensure efficient process management
- Collaborated with the Marketing Team to comprehend market trends and customer demands effectively

Education

Anna University, Chennai

Bachelor of Technology in Leather Technology

Minors: Leather Manufacturing ; Accessories Development

Certifications

- Master Data Science Program - IIT Madras certified Data Science Programmer
- AWS - AWS Certified Cloud Practitioner
- TUV NORD GROUP - **IATF 16949:2016 certified internal auditor**

Projects

CarDekho Used Vehicle Analysis

Python, Selenium, BeautifulSoup, Seaborn, Plotly

- Built CarDekho Used Vehicle Price analysis System and performed a detailed exploratory analysis to discover patterns
- Increased user satisfaction and conversion rates by providing more accurate and personalized vehicle suggestions
- Scraped the real time complex data of cars from CarDekho and built a pipeline to convert unstructured data to structured data and structured feature engineering
- Implemented machine learning algorithms to identify key factors influencing user vehicle preferences

RAG-Enabled Research Intelligence for the Leather Industry

LangChain, LangSmith, HuggingFace, Streamlit

- Recognized the need for an advanced system to streamline knowledge extraction and improve research productivity in the leather sector
- Enhanced researchers' ability to quickly access relevant information, identify trends, and generate insights
- Implemented a custom RAG model combining large language models with specialized vector databases for efficient information retrieval and built a MVP using streamlit
- **Reduced research time by 50 percent**, enabling leather industry professionals to access specific information efficiently

Query-Type Validation in Guvi Zen Classes

NLP, Transformers, VectorDB

- Reduced delays in routing the queries created by Guvi learners to the appropriate team members for timely resolution
- Developed a system using Natural Language Processing (NLP) techniques that ensures the text description matches the selected query type, minimizing incorrect selections and enabling efficient routing of queries to the right personnel
- Utilized a pre-trained transformer model to capture the relationship between text descriptions and query types
- Enhanced query resolution efficiency by automatically routing queries to the appropriate team members based on accurate query type matching.

Tech Talks & Corporate Training

Building An Enterprise Generative AI & RAG Application With Azure AI Services

- Corporate Training, Orion Innovation - Chennai

Introduction To Retrieval Augmented Generation Architecture

- Faculty Development Program, Vellore Institute Of Technology-Chennai

Generative AI: Hands On With Transformers

- Kumaraguru School Of Innovation, Coimbatore-India

Applications Of Generative AI

- AiHackathon-Guvi-Naan Mudhalvan-Anna University, Chennai,India
- Engaged 82,000 students in Learnathon and 200 teams in Hackathon
- Trained over 250 university faculties of Tamilnadu, India

Data Science For Industry 4.0

- SRM Eashwari College Of Engineering, Chennai-India

Generative AI Applications In Aeronautical Industry

- Department Of Aeronautical Engineering, Global Academy Of Technology, Bengaluru-India

Data Science Opportunities And Market Trends, 2024

- Guvi Geek Network, Chennai-India

Applications Of Artificial Intelligence And Machine Learning Across The Industries

- AVS Engineering College, Salem-India
- Invited as a Chief Guest and Inaugrated AIML Students Club

Machine Learning Powered Recommendations

- Panimalar Engineering College, Chennai-India

Foundations Of Data Science: Recent Trends and Emerging Technologies

- Sri Eashwar College Of Engineering, Coimbatore-India

Languages

- Tamil (Native)
- English (Full Professional Proficiency)
- Hindi (Full Professional Proficiency)
- German (Limited Working Proficiency)