

Monica Tare

MACHINE LEARNING ENGINEER

Whitefield, Bengaluru, Karnataka

☎ (+91) 79725-45346 | ✉ monicatare28@gmail.com | 📱 mon28 | 💻 monica-tare

Summary

A seasoned Machine Learning Engineer with a dynamic 7.5 years of experience, blending 3.5 years as a Backend Software Engineer with a 4-year tenure specializing in Machine Learning. My technical acumen spans advanced technologies like PyTorch, TensorFlow, Transformers, OpenCV, NLP, and LLM models, complemented by deployment expertise using Docker and AWS, S3 integration, Aerospike/Kafka, and Git versioning.

I prioritize continuous learning, communication, and teamwork to deliver impactful solutions that combine Machine Learning and Backend Software Engineering expertise for seamless technology integration and maximum results. Overall, my problem-solving skills and collaborative approach have led to several successful projects and achievements in the industry.

Education

Georgia Institute of Technology

Atlanta, US

MS IN COMPUTER SCIENCE (ONLINE), SPECIALIZATION: MACHINE LEARNING, GPA - 3.71/4

2017 – 2019

Birla Institute of Technology and Science, Pilani

Rajasthan, India

MSc.(TECH.) INFORMATION SYSTEMS, CGPA - 7.82/10

2011 – 2015

Experience

Media.net

Bengaluru, India

SENIOR SOFTWARE DEVELOPMENT ENGINEER - MACHINE LEARNING

Jul, 2023 – Feb, 2024

LLM Similarity-based Near-Match Keyword Deduplication

- Working on deduplicating synonymous keywords within KeywordAPI GET calls through the implementation of **Large Language Models (LLMs)** based inference and comparison of similarity scores in the Contextual Monetization Ad space using PyTorch and Transformers libraries.
- Employing **Aerospike NoSql** In-memory cache for storing and efficient processing.

Keyword Recommendation System for Publisher URLs

- Enhanced Keyword Recommendation Systems through the creation of advanced Keyword Learning models within the Contextual Monetization Ad space. This involved fine-tuning **LLMs** for sentence embeddings using PyTorch-based transformers pipelines.
- Using text corpus from keywords and cleaned URLs, fine-tuned the LLM model on first the **Masked Language Modelling (MLM)** task to improve the language understanding of the model. Next, fine-tuned the same model on **Pairwise Classification** task to optimize click predictions.
- The final model generates URL embeddings as feature data to be used by a downstream click-prediction model.

Compass

Bengaluru, India

MACHINE LEARNING ENGINEER II

May, 2022 – Jan, 2023

CompassBot

- Developed and deployed CompassBot, a chatbot for real estate agents that automates answering around 200 common weekly queries related to agents, listings, mortgages, and open houses.
- Implemented Intent-Entity-based keyword extraction using **RASA-NLP** model and query-mapping using **ElasticSearch**.
- The chat feature provided the users with a personalized list of query outcomes along with relevant links for further actions.

Agent Feed

- Led the development of Agent Feed, a LinkedIn-like social network for real estate agents that increased their engagement and activity by **5X** what they managed using existing social media platforms.
- Worked on the System Design of this feature and **AWS S3 database** creation to pool in the agent activity data and store user-specific feeds.
- Implemented an **EdgeRank** score-based personalized feed and cron jobs to perform periodic feed updates to the feed in Java. Implemented deployment process using Continuous Integration/Continuous Deployment (CI/CD) along with Test-Driven Development (TDD).

Amelia Global Services (Formerly: IPsoft Global Services)

R&D ENGINEER (MACHINE LEARNING ENGINEER)

Bengaluru, India

Jun, 2019 – Apr, 2022

FaceID

- Developed a Face Recognition-based authentication system for Amelia, a conversational AI platform that enables complex interactions between users and AI agents.
- Powered by the state-of-the-art **dlib** model with its high accuracy and robustness, the feature helped face data-saved users to reduce log-in time by **50%**.

Document Information Extractor

- Developed and enhanced a Semi-structured Document Information Extractor for 1RPA, a crucial application for automating robotic processes at Amelia that **earned \$1 million** in revenue annually.
- Implemented **feature engineering** pipelines and **data pre-processing** workflows to improve model performance.
- Completed deployment at scale with proper **Model versioning** and Model serving, using **AWS** cloud-based services and **Flask-Gunicorn**-powered endpoints.

Citibank

SOFTWARE ANALYST AND APPLICATION DEVELOPER

Pune, India

Jul, 2015 – Dec, 2018

Global Data Repository (GDR)

- Developed and enhanced GDR Application – A crucial application for Alternate Investments at Citi Private Bank handling transactions worth close to **USD 500 million** per year.
- Completed requirements under a Test-Driven Development process handled by Git-versioning.
- Introduced JUnit Test Suite to the existing code base and monitoring using Test Coverage reports. Improved the JUnit **code coverage by 27%**.

Data Quality Center

- Developed Data Quality Center for GDR, an internal utility application to maintain and manage the data for GDR.
- This application made it easy for users to perform frequent corrections in data under a Maker-Checker process.

Awarded with **Excellent Contribution Beyond the Call of Duty** certificate in quarter 1, 2016.

Projects

Rainfall Prediction

AN END-TO-END MACHINE LEARNING PROJECT ON AUSTRALIAN RAINFALL PREDICTION

GitHub

Jul, 2023

Movie Recommender System

AN END-TO-END MACHINE LEARNING PROJECT ON A CONTENT-BASED RECOMMENDER SYSTEM

GitHub

Jul, 2023

Text Summarizer

AN END-TO-END MACHINE LEARNING PROJECT ON TEXT SUMMARIZATION

GitHub

Jun, 2023

Technical Skills

- **Languages:** Python, Java, SQL
- **Libraries:** numpy, pandas, opencv, tensorflow, pytorch, tesseract-ocr, face-recognition, rasa-nlp, flask
- **Tools & Technologies:** AWS Cloud Platform, Docker, Git/Bitbucket, Aerospike/Kafka, Spark, ElasticSearch
- **Tasks:** Language Modelling, Ranking & Recommendations, Intent & Entity Extraction, OCR, Object Detection, Face Recognition