

Monica Tare

MACHINE LEARNING ENGINEER

Whitefield, Bengaluru, India

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Summary

A seasoned professional with 7.5 years of experience, including 3.5 years as a Backend Engineer and 4 years specializing in Machine Learning. I prioritize continuous learning, communication, and teamwork to deliver impactful solutions that seamlessly integrate Machine Learning and Backend Software Engineering expertise for optimal results.

Education

Georgia Institute of Technology

MS in Computer Science (Online), Specialization: Machine Learning, GPA - 3.71/4

Atlanta, US

2017 – 2019

Birla Institute of Technology and Science, Pilani

MSc.(Tech.) Information Systems, CGPA - 7.82/10

Rajasthan, India

2011 – 2015

Work Experience

Twilio

Senior Machine Learning Engineer

Bengaluru, India

Mar, 2024 – Present

- Optimizing Large Language Models (LLM) to detect and prevent fraud resulting in artificial inflation of messaging and voice traffic
- Collaborating with cross-functional teams to deploy machine learning solutions via Docker, **Kafka**, **PySpark**, and Amazon **Sagemaker**

Media.net

Senior Software Development Engineer - Machine Learning

Bengaluru, India

Jul, 2023 – Feb, 2024

Near-match Keyword Deduplication

- Implemented a blocking service utilizing Microsoft's **MiniLM-L6** LLM for de-duplicating synonymous keywords; achieved a **40% reduction** in ad inefficiencies and increased click-through rates (**CTR**) by **9%**
- Employed **Aerospike NoSql** In-memory cache for storing and efficient processing, **PySpark**-based batched jobs to refresh the latest embedding data

Keyword Recommendation System

- Enhanced the Keyword Recommendation System by generating advanced **model features** within the Contextual Monetization Ad space to improve the **AUC score** by **7%**
- Augmented the feature space by integrating **32 new** URL + title embedding-based **features** to the underlying Keyword Learning model
- Refined a BERT model using PyTorch-based transformers for Masked Language Modeling (MLM) and **Pairwise Classification** tasks

Compass

Machine Learning Engineer II

Bengaluru, India

May, 2022 – Jan, 2023

CompassBot

- Conceptualized and launched CompassBot, a chatbot for real estate agents that automates answering around **200** common weekly **queries** related to agents, listings, mortgages, and open houses, providing the users with a **Top-20** ranked list of recommendations
- Implemented Intent-Entity-based keyword extraction using **RASA-NLP** model and query-mapping using **ElasticSearch**

Agent Feed

- Led the development of Agent Feed, a LinkedIn-like social network connecting **30,000** Real Estate **Agents**, which increased their **engagement** and activity by **5 times** as observed on existing social media platforms
- Designed an **EdgeRank** score-based personalized feed and cron jobs to perform periodic feed updates to the feed within the **Java API**

Amelia Global Services

R&D Engineer (Machine Learning Engineer)

Bengaluru, India

Jun, 2019 – Apr, 2022

- Introduced a Face Recognition-based authentication system for Amelia, a conversational AI platform.
- Powered by the **dlib** model with its high accuracy and robustness, the feature helped face data-saved users to reduce log-in time by **50%**
- Developed a Document Information Extractor for 1RPA by fine-tuning a **YOLOv4** model on the **Object Detection** task, saving **30 hours** per week

Citibank

Software Development Engineer

Pune, India

Jul, 2015 – Dec, 2018

- Engineered use-cases for Global Data Repository (GDR) Application handling transactions worth close to **USD 500 million** per year
- Pioneered Data Quality Center to **manage the data** for GDR, reducing the correction time by **80%** under a Maker-Checker process

Technical Skills

Languages Python (PyTorch, Transformers, Pandas, NumPy, OpenCV), Java, SQL

Tools and Infra AWS Cloud Platform, Docker, Git/Bitbucket, Aerospike/Kafka

Tasks Language Modeling, Ranking & Recommendations, Intent & Entity Extraction, OCR, Object Detection, Face Recognition