

RAJKUMAR LAKSHMANAMOORTHY

Machine Learning Engineer

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GitHub: <https://github.com/RajkumarGalaxy>

Portfolio: <https://rajkumargalaxy.github.io/r>

StackOverflow: <https://stackoverflow.com/users/17485743/rajkumar-data>

Profile Summary

A seasoned Machine Learning Engineer with more focus on Generative AI, LLMs, NLP and Computer Vision. A continuous learner, quick problem solver, team player with strong inter-personal and communication skills. Active in Kaggle.

Notice: 30 days

Skills, Tools and Technologies

Languages:	Python 3, JavaScript
ML Framework:	PyTorch, TensorFlow, Keras, SciKit-Learn, LightGBM, XGBoost, CatBoost
NLP & Audio:	Transformers, HuggingFace, NLTK, spaCy, RASA, Chatbots, NER, Sentiment Analysis, Automatic Speech recognition
Generative AI:	LLM, LangChain, LlamaIndex, RAG pipeline, Prompting, Gemini, GPT, LLM finetuning, Chroma DB, PineCone DB
Computer Vision:	TorchVision, OpenCV, Pillow, skimage, timm, Segmentation, Recognition, GAN, OCR
Data Analysis and Viz:	Pandas, NumPy, SciPy, Matplotlib, Seaborn, SHAP
Scraping, Graph Nets:	Networkx, DGL, BeautifulSoup, Selenium, Playwright
MLOps, Deployment:	Git, BitBucket, GitLab, Flask, Streamlit, Kubernetes, Docker, PyTorch Lightning, AWS cloud

Professional Experience (2 years 8 months)

1. Akrivia Automation Pvt Ltd – Machine Learning Engineer (Onsite Fulltime Hyderabad) – Presently working – Jan 2022 till date

Projects:

1. Generate interview questions using LLMs – an RAG fetches domain specific information, augments with JD and generates technical and behavioural questions as per required expertise level
2. Generate and improve human generated contents such as unbiased JD, mail content, feedbacks using LLMs as per given prompt for employees and HR
3. Behavioural analysis from interview videos – Parsing interview video and extracting audio using MoviePy, Audio-to-text conversion using OpenAI whisper, classifying text hierarchically into big traits classes and sub-classes using artificial neural networks following Big-Traits dataset
4. Resume parsing and ranking according to job description – extracting job, skills, education using NER and representing as nodes in a graph, skill-job mapping using a graph convolution neural net, and ranking based on Jaccard similarity score
5. ID card parsing – classifying ID cards using fine-tuned ResNet50, detecting essential details from ID cards using fine-tuned YOLO v5, parsing text using pyTesseract OCR
6. RASA fully-customized AI chatbot backed by GPT4 – Created data, annotated for intents and entities, trained with DIET classifier, written stories, rules, Python actions, Python forms and responses for English and Arabic RASA chatbots for organization's proprietary product
6. Attrition Prediction – predicting employee attrition rate given personal and professional details using an Ensemble of Random Forest, CatBoost, LightGBM and XGBoost Classifiers

2. Analytics India Magazine, Bangalore – Data Science Intern (Remote Internship) – Mar 2021 to May 2021 (3 months)

Role: Writing research review articles in Machine Learning, Deep Learning, Data Analysis, NLP, Computer Vision, and Time-series

Link to works: <https://analyticsindiamag.com/author/rajkumaranalyticsindiamag-com/>

ML Forum Kaggle 3x Expert with 9 Datasets, 20+ Notebooks, 120+ Discussions | <https://kaggle.com/rajkumar>

ML Blogs 70+ blogs, tutorials and review articles in ML, NLP, Computer Vision and LLMs | <https://rajkumargalaxy.github.io/r/blogs>

ML Projects | <https://rajkumargalaxy.github.io/r/projects>

1. **Wiki-IR-ChatBot** | NLP | Information Retrieval | Web Scraping | NLTK | BeautifulSoup

- A ChatBot that responds to humans by retrieving information from Wikipedia.

2. **Conversational AI Chatbot** | NLP | NLU | DialoGPT model | Transformers | Object-Oriented Programming

- Intelligent ChatBot that makes cognitive conversations with human users.

3. **Sentiment Analysis on WNLI Dataset** | NLP | BERT | PyTorch | Transformers | Fine-tuning | GLUE Benchmark

- Sentiment Analysis on WNLI by fine-tuning a BERT model in PyTorch.

4. **People Clothing Image Segmentation** | Computer Vision | OpenCV | TensorFlow | U-Net | ResNet Encoder

- Data collection and cleaning, Data processing, Modelling U-Net with a pre-trained ResNet encoder, Fine-tuning, Model evaluation

Key Certifications

NPTEL IITs - Data Science Domain – Jan 2021, Essential Mathematics for ML – Oct 2022

Coursera - ML Specialization – Jan 2023, NLP Specialization – Mar 2024, GAN Specialization – Jul 2024

RASA - Rasa Developer Certification (Chatbot development) – Jun 2023

Education

Masters in Engineering - Engineering Design 2014-2016 - 5th Univ Rank, Anna University 8.6 CGPA

Bachelors in Engineering - Mechanical Engineering 2006-2010 - 13th Univ Rank, Anna University 88.4%

Interests Kagglng – Practicing Martial Arts – Reading Novels – Playing Chess – Cycling – Writing Novels & Poems