Anupam Nautiyal

nautiyalanupam98@gmail.com | +91 7300567998 | linkedIn/anupam-nautiyal | github/Anurich

WORK EXPERIENCE

ALTILIA | AI Researcher | NLP Scientist   Calabria, Italy | May 2021 – Current

- Spearheaded numerous R&D projects both NLP and CV.
- NLP: fine-tuning Large Language Models (LLMs) on proprietary data and Information Extraction from PDF files. Moreover, worked on text/token classification and topic modeling.
- Skilled in utilizing Langchain & LangGraph to build LLM-based applications i.e. Chatbots, RAG systems, etc.
- CV: Table detection, signature recognition, table extraction, and numerous OCR-related tasks.
- Involved in end-to-end ML lifecycle through building pipelines starting from data annotation, model training, all the way to model evaluation and monitoring.
- Exploited Active Learning techniques to enhance the data selection process for ML models.
- Proficient in creating Docker images, managing AWS EC2 instances, using S3 Buckets, and hosting Docker containers on EC2 instances.

FREELANCING | AI/ML Engineer   India, IN | Sep 2023 – Dec 2023

- Collaborated with US clients, assisting them in implementing tailored AI solutions seamlessly integrated into their products.
- Built AI recommendation systems for the fashion industry
- Created a voice-based chatbot calendar assistant
- Implemented a Deep Learning solution for video security monitoring of commercial activities.

INTIGATE TECHNOLOGY | Web Developer   India, IN | Jun 2017 – Jan 2018

- Handled all CRUD operations, created APIs for mobile applications, developed databases using MySQL and MongoDB for mobile and web applications, and used PHP CodeIgniter framework for backend along with JavaScript & jQuery.

EDUCATION

MSc. in Artificial Intelligence and Robotics   Rome, IT | Sept 2018 - March 2021
University of Rome "La Sapienza"
 Coursework: AI Formal Methods; Neural Networks; Machine Learning; Computer Vision; NLP; Reinforcement Learning; Direct and Inverse Robot Kinematic planning; Robust control; SLAM; Trajectory Planning.
MsC thesis title: *Improving Region Proposal Algorithms Via Saliency Based Attention In Automotive.*

Bsc. In Computer Science   Kanpur, India | Sept 2013 - Sept 2017
APJ Abdul Kalam University
 Coursework: Software Engineering; Operating Systems; Artificial Intelligence; Electronics; Mathematics I & II; Computer Graphics.

PUBLICATIONS

ESG DATA COLLECTION WITH ADAPTIVE AI ⬀   2023
Proceedings of the 25th International Conference on Enterprise Information Systems - Volume 1

BUILDING A PLATFORM FOR INTELLIGENT DOCUMENT PROCESSING: OPPORTUNITIES AND CHALLENGES ⬀   2023
Volume 3486 of CEUR Workshop Proceedings, pages 84-89

PROJECTS

FINE TUNE LLMS USING PEFT & DPO ⬀   Python, Pytorch

This project discusses the complete pipeline of creating an end-to-end system of finetuning the LLMs, with PEFT STTF and DPO. This project explanation is also available in the medium article which can be accessed through this link LLMsFinetuing

DEEP-VISION-TOOL ⤴   PRIVATE LIBRARY (WORK IN PROGRESS)
I am currently developing a Deep Vision Tool Library aimed at simplifying the deep learning training pipeline. The library facilitates tasks such as converting vision datasets from COCO to YOLO format or to a format specified by us. Additionally, it supports the fine-tuning of large models using approaches like PeFT. It's important to note that the library is still in the development phase. The library is private.

ACTIVE LEARNING WITH MLFLOW ⤴   PYTHON, PYTORCH
I exploited Active Learning capabilities to train Sentiment Analysis task and use MLFlow to do the experiment tracking, model and code versioning. I also show how to do the code reproducibility using MLFlow by creating different files like MLporject, conda.yaml which can be found inside src directory.

MEDIUM ARTICLES ⤴   U
Published medium articles related to different fields in AI.

SKILLS

Languages: Python, Java, MATLAB/Octave, BASH, C++, SQL, ROS.
Deep Learning Framework PyTorch, Tensorflow, Keras, MLflow, Pytorch Lightning, Transformers, Langchain, Langgraph, Langsmith
Technology: Git, Docker, LaTeX, MongoDB, Azure, AWS, Docker.
Web Development: NodeJS, JavaScript, HTML/CSS
Spoken Languages: English, Hindi

I agree to the processing of personal data provided in this document for realising the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)