

NITHIN A

Python Backend & Machine Learning Engineer

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SUMMARY

Python Backend & Machine Learning Engineer with 2.5+ years of experience delivering production-grade NLP systems and scalable APIs. Expert in fine-tuning transformer models (DeBERTa, RoBERTa, BERT) and integrating LLMs (Mistral-7B) for resume parsing, entity recognition, and semantic resume-job description matching using all-mpnet-base-v2. Experienced in designing high-performance backends with Django REST Framework and FastAPI. Strong foundation in Python, MySQL, MongoDB, PyTorch, Pandas, NumPy, Git, Docker, Machine Learning, Natural Language Processing, LLMs, Hugging Face Transformers, spaCy, and sentence-transformers, with hands-on exposure to Deep Learning, Computer Vision, and Generative AI.

EXPERIENCE

UVJ TECHNOLOGIES Pvt Ltd <i>Software Engineer</i>	Jun 2023 – Present Kochi, India
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Built and deployed multiple production-grade NLP and ML systems, along with scalable backend APIs, currently used internally by the company for automated resume entity extraction, screening, ranking, and candidate profiling.

- Fine-tuned a DeBERTa-v3 model for resume Named Entity Recognition (NER), covering skills, experience, education, and personal entities; deployed as a scalable FastAPI microservice using Docker.
- Designed an end-to-end resume-JD semantic matching system using all-mpnet-base-v2, generating similarity scores and star-based rankings for candidate shortlisting.
- Integrated Mistral-7B LLM for resume summarization and multi-class categorization, significantly improving contextual understanding over traditional BERT-based approaches.
- Developed a high-accuracy OCR pipeline using Mistral OCR to extract structured text from scanned and image-based resumes before downstream NLP processing.
- Built and maintained ML microservices using FastAPI, including experience/tenure extraction (RoBERTa + spaCy) and PDF metadata-based name & gender prediction (SVM + TF-IDF + Huggingface models).
- Designed and scaled backend APIs using Django REST Framework and FastAPI, supporting secure CRUD operations, asynchronous processing, and concurrent resume uploads using Celery and background workers.
- Managed relational and NoSQL databases (MySQL, MongoDB) for application data storage, metadata, and ML feature stores, and integrated Elasticsearch + Kibana for full-text global search and real-time analytics.

EDUCATION

Central University of Kerala <i>Masters in Computer Science</i>	Aug 2020 – Nov 2022 Kasaragod, India
Kannur University <i>Bachelors in Computer Science</i>	Jul 2017 – Jun 2020 Kannur, India

ACADEMIC PROJECTS

Multi-Class Apple Detection Using YOLOv5	Feb 2022 – Jul 2022
• Developed an object detection model for robotic harvesting to detect apple fruits using a two-stage object detector, YOLOv5.	

• Enhanced the model's accuracy with custom feature engineering and optimized hyperparameters.

Date Fruit Classification for Robotic Harvesting	Jul 2021 – Dec 2021
• Created a machine vision model for classifying date fruits based on type, maturity, and harvesting readiness in orchard environments.	

• Adapted AlexNet for feature extraction and classification to automate harvesting decisions.

SKILLS

Programming Languages: Python3

Web Frameworks: Django, FastAPI

Machine Learning Tools & Libraries: HuggingFace Transformers, sentence-transformers, PyTorch, spaCy, NumPy, Pandas, Matplotlib, Scikit-Learn

Development Tools: Docker, Git, Gunicorn, VS Code, Jupyter Notebook, PyCharm, Google Colab

Database Technologies: SQL, MySQL, MongoDB

CERTIFICATIONS

AICTE Training And Learning (ATAL) Academy Online FDP on Data Sciences

Software Engineer - HackerRank

Artificial Intelligence A-Z: Build 7 AI + LLM and ChatGPT - Udemy (2024)

Python for Machine Learning - Great Learning

Machine Learning A-Z: AI, Python and R + ChatGPT Prize - Udemy

LANGUAGES

English: Fluent

Malayalam: Native