

# NIKHIL SHINGADIYA

## MACHINE LEARNING ENGINEER

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### About Me ([Portfolio](#))

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With 3+ years of experience as a machine learning engineer, my enthusiasm lies in pioneering the development of AI systems for next-generation storytelling products. The professional journey I've undertaken is marked by a profound interest in practical AI, culminating in the honing of expertise in machine learning system design and implementation. The motivation to contribute to the evolution of cutting-edge algorithms is matched only by my strong foundation in data science and an unwavering passion for data-driven decision-making.

### TECHNOLOGY

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**Technical Skills:** Statistics and Probability, Python, Data Visualization, Exploratory Data Analysis, Machine Learning, Web scraping,Pyspark, ANN, CNN,RNN,Transformers, LLM,Generative AI,Docker, Docker-compose, MySQL, MongoDB,Object-Oriented programming, FastAPI,Celery, Redis Familiar with ml-flow,AWS(EC2,S3,ECR,Lambda).

**Libraries:** BeautifulSoup, Selenium, Numpy, Pandas, Matplotlib, Seaborn, SciPy, Scikit-learn, Statsmodels, Dash Plotly, Tensorflow, Keras, OpenCV, Langchain,Llamaindex.

**IDE:** Visual Studio Code, Jupyter Notebook, Spyder, Google-Colab, And Pycharm. **Version Control :** Git & Github  
**Operating System:** Linux (Ubuntu 20.04 LTS), Windows, Mac Os.

### WORK EXPERIENCE

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Unlimited WP - (100-150 employees)

Ahmedabad, Gujarat

AI/ML LEAD DEVELOPER

Present – Dec 2023

★ **Project:** [WeamAI](#)

- **Objective:** Provide a platform where companies can register, invite their employees to chat together with company documents, and assist them in their business operations with AI..
- **Tech Stack:** FastAPI, Celery, Redis, Docker-compose, LangChain,Llmaindex, Ray framework, Pinecone, Qdran, Generative AI, LLM models,OpenAI,HuggingFace,Anthropic, Streamlit,Ec2 Instance.
- **Features:**
  - Implement strong containerization using Docker to ensure scalable and reliable deployments.
  - Utilize a **layered architecture** for system design to enhance maintainability and scalability.
  - Develop a comprehensive **CI/CD** pipeline to automate testing, deployment, and monitoring.
  - Build a custom **RAG** (Retrieval-Augmented Generation) pipeline to improve the accuracy and relevance of Q&A responses.
  - Introduce **LangChain** agents to achieve user goals by utilizing a language model along with a sequence of actions, enhancing the interaction with company documents.
  - Use **Pinecone** and **Qdrant** for efficient storage and retrieval of embedding vectors, optimizing the performance of the AI models.
  - Leverage generative AI and **LLM** models to provide advanced conversational capabilities and intelligent document processing.
  - Utilize the **Ray framework** to maximize GPU usage for custom LLMs, ensuring efficient and high-performance model training and inference.
  - OpenAI,Huggingface Model and Anthropic Model Integrations.
  - Deployed Whole AI Backend With Ec2 Instance.

- Develop custom metrics for scaling celery workers in cloudwatch.
- Build the Custom Module For Langchain Bug Fixing.

★ **Project: GARUDA AI**

- **Objective:** Create an AI-driven blog writing engine aimed at ranking higher on the website blog.
- **Tech Stack:** Google Keyword Planner, Ahrefs, Generative AI, LLM models.
- **Features:**
  - Use **Google Keyword Planner** for in-depth keyword search volume analysis to identify high-impact keywords.
  - Scrape data from selected websites using **Ahrefs** to gather comprehensive and relevant information.
  - Generate 5 optimized blog titles with keyword tags to enhance **SEO** and increase visibility.
  - Produce high-quality, SEO-friendly content based on the generated titles using generative AI and **LLM** models.
  - Implement advanced natural language processing techniques to ensure the content is **engaging** and informative.
  - Utilize **machine learning algorithms** to continuously improve the quality and relevance of the generated content.

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F(x) Data Labs PVT LTD. (40-50 employees)

Ahmedabad, Gujarat

**MACHINE LEARNING ENGINEER**

Dec 2023 – Jan 2022

- Strong foundation in statistics and probability, with expertise in **hypothesis testing**, **A/B testing**, frequentist, regression analysis, and **bayesian testing**, supported by advanced knowledge in related fields.
- Proven ability to convert business requirements into **mathematical metrics** for analysis.
- Skilled in **web scraping** techniques for collecting and processing large-scale data.
- Skilled in querying databases using **SQL**, particularly MySQL, for data retrieval and analysis.
- Proficient in data **cleaning** and **transformation** to ensure high **data quality** and **reliability**.
- Proficient in a wide range of machine learning techniques, such as **classification**, **clustering**, and **Genetic algorithm**.
- Knowledge in state-of-the-art **generative image models**, such as **diffusion models** and controlnet.
- Skilled in constructing Large Language Models (**LLMs**) and fine-tuning them for precise applications, specifically in generating stories and **summarizing** complex narratives.
- Proficiency in deep learning models, including **CNNs**, **RNNs**, and **Attention Networks(Transformers)**.
- Familiarity with **MLflow** and **DVC** (Data Version Control) for efficient **data versioning** and model tracking.
- Experience with **Docker** and **Docker Compose** for containerization and deployment.
- Familiar with cloud platforms such as **Azure** and **AWS** for model deployment and scalability.

★ **Project : GMR**

- **The GMR Group - MCP Prediction(Time Series Forecasting)**
- **Objective:** Developed a predictive model for Market Clearing Price (MCP) forecasting in the Day-Ahead Market (DAM) with an accuracy of 70% ( $\pm 6\%$ ) using Random Forest.
- **Features:**
  - Integrated data from diverse sources, including IEX Market, Weather Data, and G-Trends, utilizing Selenium for scraping and performing comprehensive data cleaning and transformation.
  - Designed a confidence metrics ML model to aid traders in assessing the reliability of MCP forecasts for each time block.
  - Utilized Monte Carlo simulation to showcase the superior profitability(**11%**) of our model-based trading strategy compared to random trading strategies.

★ **Project : Video Redering Wowsly (Computer Vision)**

- **Objective** : Build the API(**Fast API**) where multiple users can upload one video and one csv file and based on the csv file generate the edited videos and store them to the **s3 bucket** and generate the one token for the user which helps them to track their task progress(In celery,redis and flower).
- **Features**:
  - Edited videos: based on csv files we put the text on **video clips** (frame at fixed position) for particular duration.
  - Used **Docker & Docker-compose** for maintaining micro services (fast api, celery, redis and flower).
  - Deploy this whole system on **Kubernets (AWS,EC2,Lambda)** for scaling up system

★ **Project:Web Scraping Project**

- **Objective**: In this project, we need to scrap data using selenium and BeautifulSoup like job title, contact number, job description, and location. Which the client gave us.
- **Features**:
  - First, **scrape** all the job URLs from pagination (63,000 URLs)(fetching\_url)
  - After scraping those(1 job) URLs, we need to start scraping data that clients want(collecting\_data).
  - Main.py file is triggering alternatively the above 2 scripts. I made montior.json for handling the above two scripts.

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Lookman Electroplast Ltd(Secura)

Ahmedabad, Gujarat

**DEEP LEARNING INTERN**

Aug 2022 – Nov 2022

- Worked on pedetstrain re-identification (Re-ID) task.Person re-identification task using Yolo-v3/Tiny algorithms for object detection and for multiple object tracking we were using the Kalman filter+Deep Sort algorithm.
- **Accuracy is around 80%(+/- 0.04) and It takes around 170-220 ms for processing time per frame(NVIDIA Jetson).**

**EDUCATION**

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**L.D.College Of Engineering (Gujarat Technological University)**

Ahemadabad, Gujarat

Bachelor of Engineering

May 2022

Major in Computer Engineering ,Cumulative CGPA: 8.62/10

**Certifications & Training**: Online Course in [Statistics with Python by Michigan University \(Coursera\)](#), [Mathematics for Machine Learning by Imperial College London](#), Computational Thinking and Data Science(MIT).

**Languages**: Fluent in Gujarati, and Hindi; Conversational Proficiency in English