

# Deshbhooshan G. Mahindrakar

## AI Engineer

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### Profile

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An experienced professional with over 3.6 years in AI & Data Science and overall experience of 5.8 years of hands-on experience responsible for developing and implementing AI and ML solutions, collaborating with cross-functional teams, building and deploying models, and maintaining them to ensure they continue to meet business requirements. Skilled in Python, Flask, TensorFlow, PyTorch, and AWS, NLP using Deep learning, Transformers using Hugging face library and pipelines workflow and Computer Vision Techniques using CNN & YOLO models. Passionate about using AI to solve complex problems and improve business processes.

### Professional Experience

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**AI Engineer, Kingston Info Solution Services** 04/2020 – present | Bengaluru

- Develop and deploy machine learning models for various business applications, including natural language processing, computer vision, and predictive analytics
- Collaborate with cross-functional teams to understand business requirements and design AI solutions that meet their needs
- Train models using Python, TensorFlow, and PyTorch, and deploy them on AWS
- Perform data preprocessing, feature engineering, and model tuning to optimize performance
- Implement monitoring and logging tools to ensure models are performing correctly and efficiently
- Conduct regular code reviews and participate in team discussions to share best practices and improve processes

**Service Engineer, ACE Techno Services** 01/2017 – 04/2019 | Aurangabad, India

- Calibration, testing and maintenance of instruments from Electrical, Mechanical, Thermal and Pressure stream
- Documentation for calibration certificates
- Collaborate with team members for continuous improvement and meet the deadline
- Preparing and maintaining all documents like Inspection agreement, Quality Presentation, Customer complaint and analysis data.

### Education

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**Bachelor of Engineering in Electrical Electronics & Power** 2016 | Aurangabad, India

**Relevant coursework - Artificial Intelligence, Machine Learning, Data Science, Algorithms, Computer Vision, Deep Learning**

### Skills

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**Python** (Pandas, Numpy, Regex, Scikit learn, Matplotlib, Seaborn, SciPy, NLTK)

**Machine Learning** (Fundamentals, Linear & Logistic Regression, Naive Bayes, K-NN, Decision Tree, Random)

**NLP** (Fundamentals, Text Preprocessing, Vectorization, Word2Vec, TF-IDF, RNNs, LSTM, OpenAI Chatbot, Transformers with pipeline workflows)

**Computer Vision** (CNN, YOLO models using PyTorch, Tensorflow, Keras frameworks, OpenCV library)

**AWS** (EC2, S3 Bucket Lambda Function, Machine Learning, SageMaker)

**Web Stack** (Flask, Heroku, Streamlit, AWS EC2 instance) • **IDE** (Spyder Notebook, Jupyter Notebook, VS-Code)

**DevOps** (GIT, GitHub) • **RDBMS** (MySQL) • **Visualization Tools** (Tableau)

**Computer Vision** (Yolo V7 Model, Face Detection, Image Preprocessing)

**Azure** (Container Registry, Azure Cognitive Services) • **PAAS** (Docker)

## Certificates

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- Machine Learning with Python - IBM
- Data Science using Python & R programming
- Artificial Intelligence and Deep Learning
- Python

## Projects

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### **Cellular Insights Research Study**, *Image segmentation using Yolov8x-seg\_custom model*

Role:- Project Developer

Technical Stack:- VS Code, Python Programming, YOLO v8 segmentation model, Git-Hub, Flask Framework, Docker, Azure Container Registry Service

Responsibilities :-

- To innovating cell Image analysis using Yolov8x-seg\_custom model and extract a comprehensive set of morphological features from cells, including size, shape, texture, and intensity for medical research we establish a streamlined pipeline encompassing data ingestion, validation, and model training.
- Deployment using Flask web app, Docker file and Azure Container Registry Service

### **Video Analysis of Automobile Manufacturing Process**, *Live video analysis by YOLO V7 Tiny model*

Role:- Project Lead

Technical Stack:- VS Code, Python Programming, YOLO V7, Git-Hub, Flask Framework, AWS.

Responsibilities :-

- To analyze live stream video of car manufacturing process using YOLO V7 Tiny model with PyTorch Implementation as it reduces the run run time using GPU which led to 25% increase in production efficiency
- Deployment of model on AWS cloud service for real time analysis

### **ChatBot**, *Educational Chatbot*

Role :- Project Lead

Technical Stack :- VS Code/Jupyter notebook, OpenAI GPT-3, GitHub, Twilio & What'sapp

Responsibilities:-

- Generate correlation between question and answers by appropriate data
- Develop GPT-3 model using OpenAI, messaging service provider using Twilio and deployment on What's app interface

### **Text Summarization**, *Text summarization using transformers BertConfig model*

Role:- Project Lead

Technical Stack:- VS Code, Python Programming, YOLO V7, Git-Hub, Flask Framework, Dockers, AWS EC2 Instance.

Responsibilities :-

- Utilizing a BERT-based model from the Hugging Face Transformers library, we establish a streamlined pipeline encompassing data ingestion, validation, and model training.
- Subsequently, this trained model is containerized using Docker, integrated into a Flask-based web application, and deployed on Amazon EC2 for efficient and accessible text summarization services.

### **Person Of Interest Detection**

Role:- Project Developer

Technical Stack:- Google Colab, Python, OpenCV, dlib library, Deep Learning CNN Models, Flask Framework

Responsibilities:-

- Video Analysis using libraries such as cv2 for video capture and manipulation, face\_recognition for face detection and recognition, and numpy for numerical computations.
- The face recognition is done using a convolutional neural network (CNN) based algorithm, which is optimized using a loss function to minimize the difference between the predicted and true face encodings.

### **Realtime Facial Emotion Analyzer**

Role:- Project Developer

Technical Stack:- Google Colab, OpenCV, dlib library, Deep Learning CNN Models, Flask Framework

- The model used for emotion recognition employs a deep Convolutional Neural Network.
- On the test data, the model achieved an accuracy of 63%.

- The model is integrated with a realtime analyzer that analyzes the current emotion and assigns a suitable emoji for it.
- The system also provides wrappers for video and webcam processing, making it more convenient to use.

### **Customer Sentiment Analysis**

Role :- Project Developer

Technical Stack :- VS-code/Jupyter-Notebook, Word2Vec Flask Framework, AWS, TF-IDF

Responsibilities:-

- This project involved a combination of data pre-processing, feature extraction, and machine learning model training and evaluation to perform sentiment analysis on the dataset
- Building a Deep learning LSTM model that could predict whether a review was positive or negative based on the text of the review.
- Deploying on the web based application with the help of Flask

### **Credit Scoring Analysis, *Check the default customer***

Role :- Project Lead

Technical Stack :- ML Classification Algorithms, VS-code/Jupyter-Notebook, SQL, Flask Framework, AWS

Responsibilities:-

- To carry out pre-processing, cleaning of data and to verify integrity of data.
- To visualize and analyse data with data visualization with various python libraries to get insights of available data.
- To develop appropriate machine learning model using various algorithms so it can satisfy the requirements with better efficiency and deployed on Streamlit using Flask

### **Employee Performance Estimation analysis**

Role :- Project Lead

Technical Stack :- VS Code/Jupiter notebook, SQL, Flask Framework, Heroku, AWS

Responsibilities:-

- Understanding business objective and extract data from SQL server
- Train the model using various machine learning algorithms such as Linear Regression, Random Forest, and Gradient Boosting, and choose the best-performing model based on the evaluation metrics with Flask and Heroku deployment

## **Personal Information**

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***D.O.B:6th November 1992***

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