# Personal Information

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**Past Experience | All Companies I worked**

1. Fox Solutions Pvt. Ltd.
   - Role: Automation Engineer
   - Duration: Jun 2024 - Oct 2024

2. Cei Design Consultancy Pvt. Ltd.
   - Role: Python Developer Intern
   - Duration: Aug 2024 - Sept 2024

3. Ujucode
   - Role: Subject Matter Expert Intern
   - Duration: Aug 2023 - Oct 2023

Total Experience: 8 months

# Experience - Fox Solutions Pvt. Ltd.

Role: Automation Engineer

Duration: Jun 2024 - Oct 2024

Location: Maharashtra

Key Contributions:

- Completed 2 months of internship plus 4 months of full-time work.
- Worked with PLC and SCADA systems, focusing on automating processes and optimizing operational efficiency.
- Collaborated with cross-functional teams to implement automation solutions for industrial applications.

# Experience - Cei Design Consultancy Pvt. Ltd.

Role: Python Developer Intern

Duration: Aug 2024 - Sept 2024

Location: Remote, Maharashtra

Key Contributions:

- Specialized in data processing using Python and Excel.

- Utilized OpenCV for image processing tasks.

# Experience - Ujucode

Role: Subject Matter Expert Intern

Duration: Aug 2023 - Oct 2023

Location: Remote, Maharashtra

Key Contributions:

- Contributed as a Python developer for a ChatBot project.

- Handled backend development tasks and researched Python modules.

# List of All Projects Created

**Twitter Post Sentiment Prediction:**

Skills | Technologies Used: PySpark, SQL, NLP, Google Cloud Storage, MySQL

**Text-Text Chat-Bot:**
Skills | Techonologies Used: Flask, Streamlit, MediaPipe, Docker, Databricks

# Project - Twitter Post Sentiment Prediction

**Details:**

Twitter Sentiment Prediction Python Package
This project focuses on predicting the sentiment of Twitter posts using Natural Language Processing (NLP) techniques. It is an end-to-end machine learning project that includes data preprocessing, model building, hyperparameter tuning, and deployment.

**Process followed to Build Twitter Sentiment Project :**
ETL Pipeline: Extract, transform, and load (ETL) processes implemented using PySpark and SQL.
Text Processing: Cleaned text data using regex, removed special characters, and vectorized text using TF-IDF.
Model Building: Implemented Logistic Regression and Multinomial Naive Bayes for sentiment prediction.
Hyperparameter Tuning: Optimized models using GridSearchCV.
Experiment Tracking: Logged experiments with MLflow for efficient performance comparison.
Model Packaging: Prepared reusable model packages using sdist and wheel.
Deployment Ready: Plan to host the project on Render for public access.
GitHub Link of Sentiment Prediction Python Pakcage:
github.com/vijaytakbhate2002/sentiment_prediction_python_package

# Project - Text-Text Chat-Bot

**Details of Text to Text Generator Project:**

Welcome to Text-Text Generator Chatbot, an all-in-one application for handling various text-processing tasks like paraphrasing, grammar checking, AI detection, and more! This project combines the capabilities of tools like Grammarly and ChatGPT to streamline text-related tasks.

Project Overview of Text to Text Generator Project:

This Flask-based chatbot application allows users to perform various text-generation and text-manipulation tasks with ease. Simply enter your text, select a task, and let the application do the rest!

Features of Text to Text Generator Project:

Paraphrasing: Reword text to enhance clarity and originality.

Grammar Checking: Detect and correct grammar and spelling errors.

AI Detection: Identify if text is AI-generated or human-written.

Plagiarism Checking: Ensure originality by scanning for copied content.

Summarization: Condense lengthy text into a concise summary.

Short Answer Generation: Generate brief answers for quick information retrieval.

Basic Chat: Interact with a chatbot for general queries.

GitHub link of Text to Text Generator: https://github.com/vijaytakbhate2002/Text-Text-Generator

# Project - Hand Gesture Recognition

Details:

- Used Google-s MediaPipe framework for detecting hand landmarks and gestures.

- Created and labeled a custom dataset of hand gestures for training.

- Developed a Streamlit application to improve accessibility and flexibility.

# Technical Skills

Languages: MySQL, Python, HTML, CSS

Technologies: Streamlit, Flask, VS Code, GitHub, MLflow, Docker, PySpark, Databricks, Google Cloud Platform

# Certification

MLOps Bootcamp: Mastering AI Operations for Success (Jun 2024)

- Learned about the MLOps lifecycle and modular programming.

- Acquired skills in Git, Python, Flask, and MLflow.

# Education

Bachelor of Technology in Electronics and Telecommunication (May 2024)

Institution: SVERI-s College of Engineering, Pandharpur, Maharashtra

Score: 81.71

Diploma in Electronics and Telecommunication (May 2021)

Institution: SVERI-s College of Engineering, Pandharpur, Maharashtra

Score: 91.73

# Blogging | Blogs | Articles

1. Comprehensive Docker Guide - Containerizing Flask Applications

   - Explained core Docker components, including Dockerfile, images, and containers.

   - Provided hands-on tutorials for building, running, and scaling applications.

2. What is Statistical Inference?

   - Discussed parametric inference and hypothesis testing using real-life examples.

# Languages I can Speak

English, Marathi, Hindi

# Soft Skills

Critical Thinking, Intellectual Rigor, Problem Solving, Understanding Business Needs

# About Vijay Takbhate

Hi, I'm Vijay Takbhate!

A passionate Machine Learning and AI enthusiast with a strong foundation in mathematics and its real-world applications.

I specialize in turning data into insights and thrive on solving complex problems with innovative solutions. Certified MLOps Expert, with expertise in deploying and managing machine learning models.

Passionate about cutting-edge topics like Large Language Models (LLMs), fine-tuning, and Retrieval-Augmented Generation (RAG).

## What Vijay Do

Machine Learning & AI: Developing algorithms, models, and systems to solve real-world challenges using data.

MLOps: Automating and optimizing the deployment of machine learning models in production.

LLMs & Fine-Tuning: Working with large-scale models to create intelligent, adaptable systems.

RAG: Exploring innovative approaches to enhance model performance through Retrieval-Augmented Generation techniques.

# Featured Kaggle Notebook

1. Healthy Fast Foods: KMeans and Visualization
   - Description: Clustering fast foods based on calories to identify healthier options.
   - Achievements: (Bronze Medal) | 4,604 (Views)

2. Cancer Prediction with 98% Accuracy
   - Description: Image processing and CNN model to predict cancer with high accuracy.
   - Achievements: (Bronze Medal) | 1,621 (Views)

3. Pneumonia Detection with CNN and ML with 98% Accuracy
   - Description: X-ray image-based CNN model for pneumonia detection.
   - Achievements: (Bronze Medal) | 2,000 (Views)

4. Stress Identification: NLP with Best Prediction
   - Description: NLP project covering EDA, text processing, TF-IDF, and model training.
   - Achievements: (Bronze Medal) | 2,710 (Views)

5. Activity Monitoring System Prediction - EDA
   - Description: Explored imbalanced dataset techniques for elder activity tracking.
   - Achievements: (Bronze Medal) | 680 (Views)

# Kaggle Notebook: Healthy Fast Foods: KMeans and Visualization

Description: In this project, I explored healthy fast foods and clustered them into three groups based on calorie count. Using these clusters, I identified the healthiest fast food category. This will help people avoid harmful fast foods.

Achievements: Bronze Medal [Medal] | 4,604 Views [Views]

Explore my kaggle Profile: https://www.kaggle.com/vijay20213

# Kaggle Notebook: Cancer Prediction with 98% Accuracy

Description: This project focuses on image processing and the construction of a CNN model to predict cancer with 98% accuracy. I also analyzed the models performance metrics.

Achievements: Bronze Medal [Medal] | 1,621 Views [Views]

Explore my kaggle Profile: https://www.kaggle.com/vijay20213

# Kaggle Notebook: Pneumonia Detection with CNN and ML with 98% Accuracy

Description: I trained a CNN model using 17,000 X-ray images to build a model for pneumonia detection. The project includes a website for easy interaction with the model.

Achievements: Bronze Medal [Medal] | 2,000 Views [Views]
Explore my kaggle Profile: https://www.kaggle.com/vijay20213

# Kaggle Notebook: Stress Identification: NLP with Best Prediction

Description: This NLP project covers the entire process from EDA, text processing, regex operations, TF-IDF, and BOW to model training.

Achievements: Bronze Medal [Medal] | 2,710 Views [Views]

Explore my kaggle Profile: https://www.kaggle.com/vijay20213

# Kaggle Notebook: Activity Monitoring System Prediction - EDA

Description: This project involves handling an imbalanced dataset for activity prediction. I explored techniques like undersampling, oversampling, and synthetic minorities. However, due to the low data for labels like stair descending and stair ascending, I avoided these techniques to prevent data loss and overfitting. The model is suitable for elder activity tracking, potentially deployable on hardware like Raspberry Pi.

Achievements: Bronze Medal [Medal] | 680 Views [Views]

Explore my kaggle Profile: https://www.kaggle.com/vijay20213