DIPSHREE VARTAK

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EDUCATION

Bachelor of Engineering, Computer Science Engineering (AIML)   Sep 2022 – Present
Saraswati College of Engineering, Kharghar
CGPA: 7.6 / 10

SKILLS

Programming Languages : Python, SQL

Artificial Intelligence : Machine Learning, Generative AI

Machine Learning Tools & Frameworks : Pandas, NumPy, Scikit-learn

Data Analysis & Visualization : Excel, Power BI, Matplotlib, Plotly

Web Development : HTML, CSS, Streamlit, Flask

Soft Skills : Teamwork, Problem-Solving, Communication, Adaptability, Creativity, Collaboration

PROFESSIONAL EXPERIENCE

1. Prodigy InfoTech - ML Intern   Jul 2024 – Aug 2024
- Built a **Linear Regression model** to predict house prices using features like square footage, bedrooms, and bathrooms.
- Applied **K-Means Clustering** to segment retail customers based on purchase behavior for targeted marketing insights.
- Developed a **Hand Gesture Recognition model** capable of classifying gestures from images and video input using **computer vision techniques.**

2. YBI Foundation - ML Intern   Jun 2024 – Jul 2024
- Designed a **Credit Card Fraud Detection system** using **Random Forest and Decision Tree classifiers.**
- Built a **Home Price Prediction model** using regression-based approaches.
- Created a **Heart Disease Prediction** model with machine learning algorithms to assess patient risk based on medical indicators.

PROJECTS

1. Rainfall Prediction Web Application 🔗   Jul 2025
Tech Stack: Python, Streamlit, Random Forest Classifier, GridSearchCV, Pandas,
Scikit-learn
- Developed a web-based Rainfall Prediction App using **Streamlit** and a **Random Forest Classifier**, enabling users to forecast rainfall based on weather attributes like pressure, humidity, dew point, cloud cover, and wind speed.
- Performed **data preprocessing**, handled class imbalance with downsampling, and applied **GridSearchCV** for hyperparameter optimization to improve model accuracy.
- Designed an intuitive user interface allowing real-time weather input and displaying **binary rainfall predictions** with associated probabilities.
- Trained the model on a custom dataset and deployed the final version using **pickle** for local and web-based usage.

2. Seismic Detection Across the Solar System [Team Project]   Oct 2024
Tech Stack : Python, ML, SciPy (Butterworth Filter), Matplotlib, Signal Processing,
- Engineered a **real-time denoising** system using **Butterworth filters** to extract genuine seismic activity from **Apollo** and **InSight** mission data, reducing environmental and operational noise.
- Automated seismic event detection and structured output generation to support onboard intelligent decision-making and reduce irrelevant data transmission.
- Delivered visual analytics **comparing raw vs. filtered signals**, significantly enhancing interpretability for planetary scientists and **improving data clarity for space missions**.

3. AI Desktop Voice Assistant   Jul 2024
Tech Stack: Python, PyQt5, Speech Recognition
- **Built an AI-based desktop voice assistant** using Python that performs tasks like opening apps, searching the web, fetching news/weather, playing media, managing notes, and taking screenshots—all via natural language voice commands.
- **Integrated key libraries** including speech_recognition, pyttsx3, wikipedia, webbrowser, and pyautogui, and developed an interactive GUI using PyQt5 with multithreading for seamless user experience.
- **Demonstrated expertise** in automation, GUI design, and API integration, enhancing user productivity through hands-free desktop interaction.

COURSE CERTIFICATES & BADGES

- Python For Data-science - NPTEL
- Machine Learning Course – Udemy
- Google Cloud Skill Boost 11+ Course & Lab Badges 🔗
- Python skills assessment – scaler topics
- Data Analysis With Python – IBM 🔗
- Big Data – IBM 🔗

EXTRA CURRICULAR

British Airways Data Science Job Simulation on Forage 🔗   Jul 2025
- Completed a simulation focussing on how data science is a critical component of British Airways' success.
- Scraped and analysed customer review data to uncover findings.
- Built a predictive model to understand factors that influence buying behaviour.

Tata Group Data Analytics Job Simulation on Forage 🔗   Jul 2025
- Completed a job simulation involving AI-powered data analytics and strategy development for the Financial Services team at Tata iQ.
- Conducted exploratory data analysis (EDA) using GenAI tools to assess data quality, identify risk indicators, and structure insights for predictive modeling.
- Proposed and justified an initial no-code predictive modeling framework to assess customer delinquency risk, leveraging GenAI for structured model logic and evaluation criteria.
- Designed an AI-driven collections strategy leveraging agentic AI and automation, incorporating ethical AI principles, regulatory compliance, and scalable implementation frameworks.

BCG GenAI Job Simulation on Forage 🔗   Jun 2025
- Completed a job simulation involving AI-powered financial chatbot development for BCG's GenAI Consulting team.
- Gained experience in Python programming, including the use of libraries such as pandas for data manipulation.
- Integrated and interpreted complex financial data from 10-K and 10-Q reports, employing rule-based logic to create a chatbot that provides user-friendly financial insights and analysis.

Tata Data Visualization: Empowering Business with Effective Insights Job Simulation on Forage 🔗   Apr 2025
- Completed a simulation involving creating data visualizations for Tata Consultancy Services
- Prepared questions for a meeting with client senior leadership
- Created visuals for data analysis to help executives with effective decision making

AWARDS & ACHIEVEMENT

PVPPCOE Quasar 3.0 Hackathon Grand Finalists
Ranked in the top 50 of 500+ teams for delivering a technically innovative and impactful project.