Vivek Choudhari

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Innovative Data Scientist with 3+ years of experience specializing in Machine Learning solutions for the healthcare industry. Leading a talented team of 2 Junior Data Scientists and 1 Junior Python Developer, I utilize my Python expertise to enhance medical imaging analysis. My strategic initiatives have resulted in a 70% increase in operational efficiency and an 80% reduction in data processing time. Committed to advancing healthcare technology, I focus on developing robust algorithms for object detection while ensuring scalable, effective solutions.

AREA OF EXPERTISE

Programming
- Python
- SQL

Machine Learning & Deep Learning
- Natural Language Processing (NLP)
- Convolutional Neural Network (CNN)
- Regression
- Classification
- YOLO Detection
- Gen AI Concepts
- OpenAI API Concepts

Packages
- Numpy
- Pandas
- Scikit
- TensorFlow
- Keras
- Matplotlib
- OpenCV

Data Visualization
- Power BI

Competencies
- Team work & Collaboration
- Decision Making
- Statistical Analysis
- Great Communication
- Project Management
- Continuous Learning

EDUCATION

B.Tech. Engineering
Vishwakarma Institute of Information Technology, Kondhwa, Pune-46
2017 – 2021

WORK EXPERIENCE

Medimaze Solutions Pvt. Ltd. | Data Scientist
May 2023 – Present | PCMC, Maharashtra

- Led AI-driven solutions to improve diagnostic accuracy and operational efficiency.
- Worked with cross-functional teams to integrate AI into existing medical workflows. Implemented cost-effective, scalable solutions, saving time and resources.
- Managed AI project lifecycles, ensuring alignment with strategic goals and compliance.
- Identified and resolved workflow challenges, driving process automation improvements.
- Maintained high standards of quality and compliance in AI models.

Projects:

AI-ML Deep Learning Models in Chest X-Ray
- Developed deep learning models for chest X-ray pathology detection, including Cardiomegaly, Pleural Effusion, Pneumothorax, Tuberculosis, and more, with validation accuracies above 83%.
- Designed custom algorithms for clinical measurements like Cardiac Size and Costophrenic Angle to support diagnosis.
- Curated large datasets and implemented data pre-processing techniques for optimizing model performance and accuracy.

YOLO Pathology Detection AI in Chest X-Ray
- Created and deployed YOLO-based models for detecting chest abnormalities such as nodules and rib fractures, significantly improving detection rates and workflow efficiency.
- Led the integration of YOLO models into the clinical diagnostic pipeline, ensuring real-time detection and precise abnormality identification.

Simplified Report Generative AI (Mobile Healthcare App)
- Developed an AI chat bot to simplify medical reports for patients, explaining medical terms and findings. Initially integrated with ChatGPT API, now using OLLAMA Gemma for enhanced functionality.

Generative AI for Machine Protocol (CT/MRI)
- Built an AI system that guides machine technicians on correct protocols for CT & MRI scans, ensuring accurate scan and reducing human error.

Gender-Specific Reporting AI
- Introduced an AI to flag and prevent gender-specific reporting errors, ensuring no male-specific terms appear in female reports. Implemented using OLLAMA models.

Generative AI for Report Labels/Tags
- Automated the tagging of patient studies (Normal/Abnormal) using AI to streamline workflow and data organization.

TRAININGS

Data Science & Data Analytics
ExcelR Academy
Jan 2023-June 2023
Baner, MH

PUBLICATIONS

Mathematical Modelling of an Automatic Bag Mask Valve Emergency Ventilator
International Research Journal of Engineering And Technology (IRJET)
Sept 2020

Cognizant Technology Solutions | Programmer Analyst

Jul 2021 – Apr 2023 | Pune, Maharashtra

Project: British Gas, UK

- Conducted in-depth analysis of customer attrition for British Gas, UK, identifying key factors contributing to churn
- Developed machine learning models to predict customer churn and provided actionable insights to mitigate attrition rates.
- Applied data science techniques to analyze text data, extracting insights on service challenges across different cities, areas, and demographics.
- Collaborated with cross-functional teams to implement data-driven solutions and optimize customer retention strategies.

Cognizant Technology Solutions | Internship | PA Trainee

Feb 2021 – June 2023 | Pune, Maharashtra

- Trained in C, Python, SQL, and JavaScript, gaining familiarity with Agile methodology and Automation Testing.
- Executed projects like "Book Tour from Redbus.com" for Automation Testing and contributed to Data Science projects, including "Mobile Price Prediction" and "Sentiment Analysis."
- Actively pursued further learning through Udemy certifications to enhance skills.

CERTIFICATES

Jan 2024	GL Academy	AI for Healthcare
May 2023	IBM	Machine Learning with Python
Apr 2023	ExcelR Solutions	Data Science Certification
Apr 2023	Udemy	Artificial Intelligence A-Z™ 2023
Apr 2023	Udemy	The Data Science Course 2023: Complete Data Science Boot camp
Jun 2022	Microsoft Certifications	AI-900: Azure AI Fundamentals by Microsoft Certifications
May 2022	Udemy	Deep Learning A-Z™: Hands-On ANN
Apr 2022	Udemy	Machine Learning A-Z: Hands-On Python & R
Apr 2022	Udemy	Feature Engineering for Machine Learning

PROJECT CASE STUDIES

Sentiment Analysis (Regression)

- Employed NLP techniques like tokenization and stemming to preprocess customer review data.
- Utilized feature engineering to extract key features, enabling accurate sentiment classification.
- Implemented classification algorithms (Logistic Regression, Naive Bayes, SVM) to categorize sentiments as positive, negative, or neutral.

Lung & Colon Cancer Image Classification (Classification using CNN)

- Developed a model using a dataset of 25,000 histopathological images across five classes.
- Preprocessed images through resizing, normalization, and augmentation techniques.
- Leveraged CNN architectures to classify images into various types of cancerous and benign tissues.

Disease Prediction (Regression)

- Created a predictive model for assessing apoplexy risk using 5,000 medical study records.
- Analyzed patient demographics, medical history, and lifestyle factors for accurate predictions.
- Applied data preprocessing techniques to ensure the quality and reliability of the model.