SACHIN MAURYA

B.Tech. (Hon's) CSE (AI)
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Chhattisgarh Swami Vivekanand Technical University

PROFILE SUMMARY:

B.Tech (CSE – AI) student with hands-on experience in data science and machine learning, specializing in predictive maintenance, generative modeling, and medical image analysis. Developed a digital twin of centrifugal pumps using LSTM and XGBoost, and built a CNN-based MRI classifier for brain tumor detection. Proficient in Python, TensorFlow, OpenCV, and building end-to-end data pipelines and ML solutions.

EDUCATION

Year	Degree/Examination	Institution/Board	CGPA/Percentage
2022	B.Tech. 3rd Year	CSVTU – (Bhilai)	7.5
2021	Twelfth	Holy Angels Public School (C.B.S.E)	75%
2019	Tenth	S.B.T Public School (C.B.S.E.)	80%

SKILLS:

- **Programming and Libraries :** Python (NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, TensorFlow, OpenCV), SQL, R
- **Core Concepts :** Statistics and Probability, Data Structures and Algorithms, Machine Learning, Deep Learning (CNN, GAN, LSTM)
- **Data Handling and Analysis :** Data Manipulation, Data Scraping, Data Visualization
- **Tools and Platforms :** MATLAB, Tableau, Google Colab, Git
- **Cloud Computing :** Google Cloud Platform (Firebase), AWS (basic)

INTERNSHIPS:

Digital Twin of Centrifugal Pump (NSTL-DRDO) | IIT Roorkee

- Collaborated on a predictive maintenance project for centrifugal pumps using AI/ML techniques.
- Trained models using Ensemble Learning algorithms (Random Forest, XGBoost) and LSTM for time-series forecasting.
- Processed sensor data to detect anomalies and predict pump health in real-time.
- Built and optimized deep learning pipelines for sequential data patterns.
- Developed a live simulation dashboard to visualize real-time pump performance and failure prediction.
- Aimed at reducing unplanned downtime and increasing operational efficiency in defense applications.

Data Scientist | Quick CURD

- Gained hands-on experience in approaching and framing real-world machine learning problems.
- Focused on understanding the complete ML workflow—from problem identification to model evaluation.
- Explored the impact of often-overlooked basics like feature clarity, data consistency, and domain alignment.
- Developed a mindset toward scalable, efficient, and meaningful AI solutions for dynamic use cases.
- Worked on strategies to handle unexpected challenges in data, logic gaps, and edge-case scenarios

PROJECTS:

Finding Remaining Useful Life (RUL) of Pump Components using Machine Learning | IIT Roorkee

- Developed a machine learning algorithm to estimate the Remaining Useful Life (RUL) of physical components In centrifugal pumps.
- Implemented real-time health monitoring and visualization to predict part lifespan and suggest corrective Maintenance strategies.

Human Induced Load (GAN) | IIT Roorkee

- Designed a model to calculate Human-Induced Load using Generative Adversarial Networks (GANs).
- Explored advanced GAN architectures like W-GAN and W-GAN-GP to improve stability and accuracy.

Human-Activity-Recognition-HAR-using-UCI-Dataset | IIT Gandhi Nagar

- Implemented a Human Activity Recognition model using the UCI HAR dataset with classical ML algorithms.
- Achieved accuracy(99.7%) in classifying physical activities like walking, sitting, and standing

Brain Cancer Detection | CSVTU

- Built a deep learning model for brain cancer detection using MRI images and CNN architecture.
- Achieved high classification accuracy (99.5%) by applying preprocessing, data augmentation, and model optimization techniques.

CERTIFICATION:

- **MATLAB Certified** – Completed official certification in MATLAB programming.
- **Internshala Certification** – Machine Learning & Data Science Training Program.
- **Participant, Codeutsava 8.0 Hackathon** – National-level hackathon at NIT Raipur.
- **5 - Star** – Hacker Rank (Python & C)
- **2nd Position – ISRO Based Quiz –** Conducted by "Algo Abode"

LANGUAGES:

- Hindi (Native /Fluent)
- English (Fluent)