SAARANSH JOHRI

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SUMMARY

AI Engineering undergraduate specializing in Machine Learning, Deep Learning, and NLP. Hands-on experience building end-to-end ML pipelines, CNN-based models, and LLM-powered applications. Published datasets on IEEE Dataport and worked on real-world healthcare prediction systems.

EDUCATION

MIT World Peace University, Pune **Aug 2023- Aug 2027**
Department of Computer Science & Engineering

- Bachelor's of Technology - Computer Science (AI & DS)
- 8.45 CGPA - Till 4th Semester

SKILLS

Programming: Python, SQL
ML/DL: Machine Learning, CNNs, Transfer Learning, SMOTE, Feature Engineering
NLP & GenAI: HuggingFace, NLTK, LLMs
Frameworks: TensorFlow, Scikit-learn
Data: Pandas, NumPy, EDA, Tableau
Tools: Git, GitHub, Flask
Soft Skills: Analytical thinking • Problem-solving • Team collaboration • Communication • Adaptability • Time management

PROJECTS

1. **GAME BASED ALZHEIMER'S DETECTION**

- Designed and developed an interactive cognitive game platform to assess memory, attention, and reaction-time patterns for early Alzheimer's risk detection.
- Leveraged reinforcement learning to adapt game difficulty and reward strategies dynamically with each gameplay session, enabling personalized assessment based on user performance.
- Engineered feature extraction pipelines from in-game behavioral data (response time, accuracy, error patterns) to generate clinically relevant cognitive indicators.
- Trained and evaluated machine learning models to classify cognitive decline risk using gameplay-derived metrics, achieving reliable predictive performance.
- Integrated real-time data logging and preprocessing workflows to support continuous user assessment, reinforcement learning updates, and model inference.
- Implemented a web-based interface for seamless user interaction, visualization of cognitive scores, and longitudinal performance tracking over time.

2. **CROP YIELD PREDICTION USING SOIL-WEATHER CONDITIONS**

- Built an end-to-end machine learning pipeline to predict crop yield by integrating soil health indicators and weather parameters from multi-year environmental datasets.
- Performed domain-specific feature engineering on soil nutrients and climatic variables to capture their influence on agricultural productivity.
- Trained and compared multiple regression models, evaluating performance using RMSE and R^2 metrics to ensure accuracy and robustness of predictions.
- Derived actionable insights from model outputs to support yield optimization and data-driven decision-making for farmers and policymakers.

3. **30-DAY READMISSION PREDICTION OF DIABETIC PATIENTS**

- Developed a machine learning model to predict the probability of 30-day hospital readmission in diabetic patients using a real-world healthcare dataset.
- Preprocessed over 100,000 patient records by handling missing values, encoding categorical variables, and feature engineering from diagnosis codes (ICD).
- Applied SMOTE (Synthetic Minority Over-sampling Technique) to address class imbalance in the "readmitted" target variable.
- Trained multiple models (Random Forest, XGBoost, Logistic Regression), with Random Forest achieving the best performance.
- Evaluated models using metrics like accuracy, F1-score, ROC-AUC, and confusion matrix to ensure generalizability.

ACTIVITIES, CERTIFICATIONS & ADDITIONAL INFORMATION

- **Languages:** English (fluent), Hindi (native)
- **Certifications:**
  1) AI/ML Specialization – Pregrad
  2) Computer Vision Masterclass – Udemy
  3) AI Foundations – IBM Cognitive Class
  4) Won the track and got shortlisted for the idea submission in the Internal Smart India Hackathon 2025.

AI & Cloud Technology Internship (IBM & AICTE) **October 2025**

- Completed a 4-week AI & Cloud Technology internship in collaboration with AICTE and IBM SkillsBuild, implemented by Edunet Foundation.
- Gained hands-on exposure to AI workflows, data analysis concepts, and cloud computing fundamentals through structured training modules.
- Applied learned concepts to real-world problem statements, strengthening analytical thinking and industry-oriented problem-solving skills.

Deloitte Australia – Data Analytics Job Simulation (Forage) **July 2025**

- Completed a Deloitte job simulation involving forensic technology and data analysis
- Created a data dashboard using Tableau
- Used Excel to classify data and draw actionable business conclusions

Tata Group Data Analytics using GenAI Job Simulation on Forage **August 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.

PUBLICATIONS

- **Published a dataset on IEEE Dataport analyzing performance trends of six machine learning algorithms across varying dataset sizes and parameters, highlighting statistical patterns, comparative insights, and data-driven benchmarks for algorithm selection:**

Saaransh Johri, Dr. Deepali Javale, "AlgoBench: Machine Learning Algorithm Performance Across Dataset Sizes ", IEEE Dataport, August 26, 2025, doi:10.21227/9hfz-zv46

- **Published a dataset on IEEE Dataport consisting of soil-weather based rice crop yield throughout last 15-17 years in the top 10 rice producing states of India:**

Saaransh Johri, Tanmay Dhumal, Milind Muravane, "Top 10 State-wise Rice Production Dataset", IEEE Dataport, September 21, 2025, doi:10.21227/kfdy-z277