

# DISHA SONAWANE

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## Profile Summary

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MSc Data Science student with a strong foundation in machine learning, deep learning, NLP, reinforcement learning, statistics, and full-stack web development. Skilled in Python, SQL, Power BI, and Django with hands-on experience building data-driven applications, dashboards, and intelligent ML systems. Adept at problem-solving, communicating technical ideas clearly, and delivering structured, reproducible solutions. Seeking opportunities in data science, AI, analytics, and software engineering.

## Education

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**Christ University, Pune Lavasa** 2024–2026  
MSc in Data Science

**HPT Arts and RYK Science College** 2019–2024  
BSc Statistics CGPA: 8.41

## Coursework

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**MSc Coursework:** Machine Learning, Deep Learning, Reinforcement Learning, Data Mining, Statistics for Data Science, Multivariate Analysis, Big Data Analytics, Natural Language Processing, Linear Regression Models, Predictive Analytics, Database Management Systems, Python Programming, R Programming, Research Methodology.

**BSc Coursework:** Probability Theory, Statistical Inference, Regression Analysis, Design of Experiments, Time Series Analysis, Sampling Techniques, Linear Algebra, Numerical Analysis, Optimization Techniques.

## Technical Skills

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**Programming:** Python, R, Java, C

**Databases:** MySQL, PostgreSQL, MongoDB

**ML / DL:** Scikit-Learn, TensorFlow, Keras, PyTorch, NLP, Reinforcement Learning

**Data Visualization:** Power BI, Matplotlib, Seaborn

**Tools:** Git, Jupyter Notebook, VS Code

**Web Development:** HTML, CSS, Bootstrap, Django

**Big Data:** Hadoop, Hive

## Projects

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**Reinforcement Learning Game Environment** 2025  
*Python, PyTorch / TensorFlow, OpenAI Gym*

- Designed a custom Grid-World environment and trained an RL agent to learn optimal actions through reward signals.
- Implemented DQN with target networks, replay buffer, and epsilon-greedy exploration for stable learning.
- Tuned key hyperparameters (learning rate, batch size, discount factor) to improve convergence and cumulative reward.

- Visualized learning curves, episode rewards, and agent behaviour to interpret policy quality.
- Developed a modular, reproducible training pipeline suitable for further research and experimentation.

### **Emotion Detection Using Hybrid CNN–LSTM**

2025

*Python, TensorFlow / Keras, NLP*

- Built an end-to-end emotion classification pipeline for categories such as joy, anger, fear, sadness, surprise, and love.
- Performed text preprocessing including tokenization, lemmatization, stop-word removal, and GloVe-based embeddings.
- Designed a hybrid CNN–LSTM architecture to capture local n-gram patterns and long-range semantic dependencies.
- Improved performance using regularization (dropout), early stopping, learning-rate scheduling, and hyperparameter optimization.
- Evaluated the model using accuracy, F1-score, confusion matrix, and error analysis to identify failure cases.

### **Sales Performance Dashboard**

2024

*Power BI, DAX, Power Query*

- Developed an interactive dashboard to track KPIs, sales trends, product performance, and time-series patterns.
- Used DAX to create calculated measures, rolling averages, and drill-down visuals for regional and product-wise analysis.

### **Gym Fitness – Full Stack Web Application**

2023

*HTML, CSS, Bootstrap, Django, MongoDB*

- Implemented user authentication, workout logging, and CRUD operations for managing fitness plans.
- Integrated MongoDB for persistent storage and designed a responsive UI with Bootstrap for mobile and desktop users.

## **Certifications**

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- Data Analysis and Visualization with Power BI — Microsoft (Coursera), 2025 [View Certificate](#)
- Introduction to MongoDB — MongoDB University, 2025 [View Certificate](#)

## **Leadership & Extracurricular Activities**

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### **Class Representative**

2024–2025

- Acted as liaison between students and faculty, coordinating academic communication, feedback, and schedules.

### **Inclusiverse Club – Core Member**

2023–2024

- Led initiatives to promote inclusion of children with intellectual disabilities and organized awareness programs and events.

## Languages

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- English
- Hindi
- Marathi