

# Swayam Burde

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## EDUCATION

<b>VIT Bhopal University</b> B.Tech in CSE(Specialization in AI-ML); CGPA: 8.50/10.00	Bhopal, India Aug 2023 – Jun 2027
<b>Mount Litera Zee School</b> Senior Secondary Education, CBSE; Percentage: 70.5/100	Nagpur, India Mar 2022
<b>Kendriya Vidyalaya</b> Matriculation, CBSE; Percentage: 86.8/100	Nagpur, India Mar 2020

## TECHNICAL SKILLS

**Programming Languages:** Python, C++, JAVA, SQL

**CS Fundamentals:** Data Structures and Algorithm, OOPS, Operating System, DBMS, Computer Networks, Machine Learning

**Machine Learning & AI:** machine learning, deep learning, NLP, transformers, encoder–decoder architectures, attention, sequence models.

**Frameworks & Libraries:** Scikit-learn, TensorFlow, PyTorch, Keras, NumPy, Pandas, Matplotlib, Seaborn, OpenCV, Hugging Face Transformers, spaCy, NLTK.

**Tools & Platforms:** Flask, Streamlit, AWS, Render, GitHub, Google Vertex AI

## PROJECTS

<b>Student Performance Predictor</b> <i>Machine Learning Project</i>	Jul 2025
• Built an end-to-end student academic performance prediction system using Python, Pandas, and Scikit-learn, performing data cleaning, missing-value imputation, feature engineering, and exploratory data analysis on demographic, behavioral, and academic data.	Python, Pandas, Scikit-learn, Flask
• Trained and benchmarked multiple models (Ridge, Linear Regression, CatBoost, Random Forest, AdaBoost, XGBoost, Lasso, KNN, Decision Tree), achieving a best R <sup>2</sup> score of 0.88 with Ridge and Linear Regression, while significantly improving over weaker baselines such as Decision Tree (R <sup>2</sup> = 0.75) and KNN (R <sup>2</sup> = 0.78).	
<b>Real Estate Price Predictor</b> <i>Machine Learning Project</i>	Aug 2025 – Sep 2025
• Trained and compared multiple regression models (CatBoost, XGBoost, Random Forest, Linear/Ridge/Lasso, AdaBoost, KNN, Decision Tree) for Ames housing price prediction, selecting models based on R <sup>2</sup> performance.	Python, Pandas, Scikit-learn, Flask, Render
• Achieved a best R <sup>2</sup> of 0.95 with CatBoost Regressor, beating XGBRegressor (0.94), Random Forest (0.92), and linear baselines (0.89), then deployed the chosen model in a Flask web app for real-time price estimation.	
<b>VideoIQ Pro</b> <i>Generative AI &amp; Multimodal Intelligence Project</i>	Nov 2025 – Dec 2025
• Engineered a dual-stream video analysis pipeline integrating OpenAI Whisper for ASR and CLIP for visual embedding, enabling users to perform granular semantic searches across both spoken audio tracks and video frames via natural language queries.	Python, Streamlit, OpenAI Whisper, CLIP, LLaMA-3, Qdrant, MoviePy
• Orchestrated a Retrieval-Augmented Generation (RAG) system using a local Qdrant vector database for low-latency retrieval and Groq's LLaMA-3 for generating context-aware narrative summaries, optimized within a responsive Streamlit UI featuring dynamic asynchronous task tracking.	

## CERTIFICATIONS

**Applied Machine Learning in Python** - University of Michigan (Coursera)

**Cloud Computing** - NPTEL

**Data Science Bootcamp** - Udemy