Swayam Burde

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EDUCATION

VIT Bhopal University Bhopal, India
B.Tech in Computer Science and Engineering (Specialization in AI and ML); CGPA: 8.50/10.00 *Aug 2023 – Jun 2027*

Mount Litera Zee School Nagpur, India
Senior Secondary Education, CBSE; Percentage: 70.5/100 *Mar 2022*

Kendriya Vidyalaya Nagpur, India
Matriculation, CBSE; Percentage: 86.8/100 *Mar 2020*

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, SQL

Computer Science Fundamentals: Data Structures and Algorithms, Object-Oriented Programming (OOP), Operating Systems, Database Management Systems (DBMS), Computer Networks, Machine Learning

Machine Learning and Artificial Intelligence (AI): Machine Learning, Deep Learning, Natural Language Processing (NLP), Transformers, Encoder-Decoder Architectures, Attention Mechanisms, Sequence Models

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

Tools and Platforms: Flask, Streamlit, Amazon Web Services (AWS), Render, GitHub, Google Vertex AI

PROJECTS

Student Performance Predictor Jul 2025
Machine Learning Project *Python, Pandas, Scikit-learn, Flask*

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.

Trained and benchmarked multiple models (Ridge, Linear Regression, CatBoost, Random Forest, AdaBoost, XGBoost, Lasso, KNN, Decision Tree), achieving a best R-squared (R^2) score of 0.88 with Ridge and Linear Regression, while significantly improving over weaker baselines such as Decision Tree (R^2 = 0.75) and KNN (R^2 = 0.78).

Real Estate Price Predictor Aug 2025 – Sep 2025
Machine Learning Project *Python, Pandas, Scikit-learn, Flask, Render*

Trained and compared multiple regression models (CatBoost, XGBoost, Random Forest, Linear Regression, Ridge Regression, Lasso Regression, AdaBoost, KNN, Decision Tree) for Ames housing price prediction, selecting models based on R-squared (R^2) performance.

Achieved a best R^2 of 0.95 with CatBoost Regressor, beating XGBoost Regressor (0.94), Random Forest (0.92), and linear baselines (approximately 0.89), then deployed the chosen model in a Flask web app for real-time price estimation.

VideoIQ Pro Nov 2025 – Dec 2025
Multimodal Intelligence Project *Python, OpenAI Whisper, CLIP, LLaMA-3, Qdrant, MoviePy*

Engineered a dual-stream video analysis pipeline integrating OpenAI Whisper for Automatic Speech Recognition (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.

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 user interface (UI) featuring dynamic asynchronous task tracking.

CERTIFICATIONS

Applied Machine Learning in Python - University of Michigan (Coursera) | Certificate Link

Cloud Computing - NPTEL | Certificate Link

Data Science Bootcamp - Udemy | Certificate Link