Samarth Pratap Singh

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EDUCATION

VIT Bhopal University, Bhopal **2023 – 2027**
B.Tech - Computer Science and Engineering - ***CGPA - 8.45*** *Bhopal, Madhya Pradesh*

COURSEWORK

- DSA
- Oops Concepts
- Cloud Computing
- DBMS
- Operating Systems
- Computer Networks
- Software Engineering

PROJECTS

Project Loom | Next.js, TypeScript, Sanity.io, NextAuth.js **Jan 2025**

- Engineered a full-stack project-sharing platform using Next.js, leveraging Server-Side Rendering (SSR) and Incremental Static Regeneration (ISR) to decrease initial page load times by 50%.
- Architected a scalable backend with the Sanity.io headless CMS, designing content models to efficiently manage and serve over 1,000 project entries and user profiles.
- Implemented secure user authentication with NextAuth.js and a PostgreSQL database, enabling users to manage profiles, post projects, and interact with content.

Book Review Sentiment Analyzer | Gensim, Streamlit, Logistic Regression **Aug 2025**

- Developed a full-stack sentiment analysis application using Python, Scikit-learn, and NLTK to classify book reviews from a dataset of over 10,000 Amazon Kindle reviews.
- Engineered and compared text vectorization techniques including TF-IDF and Word2Vec, ultimately training a Logistic Regression classifier that achieved 76% prediction accuracy—a 17% absolute improvement over baseline models.
- Deployed the model as an interactive web application using Streamlit, providing a user-friendly interface for real-time sentiment prediction from user-provided text.

Used Car Price Prediction Model | Scikit-learn, XGBoost, Streamlit **July 2025**

- Developed a model to predict market prices of used cars, processing a dataset of over 10,000 listings.
- Implemented robust data preprocessing pipelines, including one-hot encoding for categorical features and standard scaling for numerical data.
- Engineered a predictive model using XGBoost to forecast used car prices,achieving an R-squared score of 0.942.
- Systematically benchmarked 9 regression models and improved the top performer's accuracy through hyperparameter tuning with RandomizedSearchCV.

DexPro - A Modern Pokédex | React, JavaScript, Redux Toolkit, PokéAPI **April 2025**

- Developed an interactive Pokédex fetching and managing data for over 1,000 Pokémon from the PokéAPI, utilizing **Redux Toolkit** for robust and predictable state management across the application.
- Engineered a visually engaging, mobile-first UI with **Tailwind CSS** and integrated **Framer Motion** to create fluid page transitions and dynamic animations, enhancing the user experience.
- Structured the application using a modular, component-based architecture in JavaScript (ES6+) and implemented performance optimizations like lazy loading, resulting in a 40% faster initial page load.

TECHNICAL SKILLS

Languages: Python, C++, JavaScript/TypeScript, SQL
Full-Stack: Next.js (React), Node.js, PostgreSQL, MongoDB, Docker
Machine Learning: Machine Learning & NLP: PyTorch, Hugging Face, NLTK, Scikit-learn, Pandas
Tools & Concepts: Git, GitHub, REST APIs, Data Structures & Algorithms

CERTIFICATIONS

- Applied Machine Learning in Python - Coursera
- C++ - Udemy
- Graph data structure for CP - Udemy

EXTRACURRICULAR

- AWS Club