

SHIVRAJSINH BHOSALE

Machine Learning • Data Science • Deep Learning • Algorithm Optimization • Data Structures and Algorithms
Senior Undergraduate | IIT Gandhinagar | Majors in Artificial Intelligence and Chemical Engineering

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EDUCATION

Indian Institute of Technology, Gandhinagar (IITGN) Gandhinagar, India
B.Tech. Artificial Intelligence 2022-2027

INTERNSHIP EXPERIENCE

ASCENT Intern – Business Solutions Group May '26 – July '26
Axis Bank | Mumbai, Maharashtra

- Engineered an NLP-driven data extraction pipeline using **Python, SpaCy, and FastAPI** to parse unstructured free-text from SFDC and Finacle systems, processing over 50,000 loan application records with a validated **94%** entity recognition accuracy.
- Architected a robust synthetic data generation microservice leveraging **Tabular GANs (CTGAN)** and **REST APIs** to dynamically map complex parameters, expanding edge-case test coverage by **45%** across critical retail banking workflows.
- Automated integration of synthetic datasets into Katalon Studio using dynamic **JSON mapping** and deployed containerized Docker environments in **GitLab CI/CD**, **boosting regression testing speed and QA efficiency by 60%** while enabling a scalable continuous testing framework aligned with Udaan 2.0.

SELECTED PROJECTS

Real-Time Human Activity Classifier using Accelerometer Data July '25 – Aug '25
Advisor: Prof. Nipun Batra | [GitHub]

- Conducted **Exploratory Data Analysis (EDA)** and visualized activity classes using **Principal Component Analysis (PCA)** to reduce dimensionality and identify patterns in accelerometer data.
- Trained **Decision Tree models** on raw and featurized data using **TSFEL** and **UCI-HAR features**; evaluated performance through accuracy, precision, recall, and confusion matrix across multiple approaches.

Agentic AI System for Code Generation May '25 – July '25
AST, Merkle Trees, Vector DB

- Engineered a modular, CLI-based agentic framework with robust exception handling and unit testing to automate end-to-end development workflows, encompassing **multi-file editing, recursive error resolution, and automated runtime validation**.
- Developed **AST-based structural parsing** for deep code analysis and **Merkle Tree hashing** to facilitate efficient, verifiable change tracking and state management across high-volume, enterprise-scale repositories.
- Integrated **vector DBs and semantic embeddings** for context-aware bug fixing and planning via natural language.

FedEx: Optimal Cargo Management for Flights Dec '24
Inter IIT Tech Meet 14.0 | [GitHub]

- Implemented various approaches using heuristics to develop the **Sequential Genetic Algorithm combined with the Deepest-Bottom-Left Algorithm** to optimize the packing of Unit Load Devices (ULDs).
- Designed a series of algorithms to maximize **volumetric efficiency** while minimizing the **total cost of packaging**.
- Achieved a **cost reduction** by effectively finding the optimal sequence of packages to be packed in ULDs.

AWARDS AND ACHIEVEMENTS

- Awarded the Shri Shanti Saroop Agarwal Scholarship of Rs. 1,00,000 for strong research caliber and future potential. 2026
- Awarded the Institute Donor Scholarship of Rs. 1,00,000 for exceptional **all-round performance**. 2025
- Received the prestigious **National Talent Search Scholarship**(awarded to the top 0.2% of students in India). 2024
- Achieved a percentile of **99.33** in JEE Mains and **99.77** in CET Maharashtra. 2022

SKILLS

Languages: Python C++ SQL JavaScript Verilog MATLAB LaTeX HTML CSS

Tools and Platforms: Git GCP Weights and Biases Xilinx Katalon Vivado Autodesk Inventor AWS

Libraries: OpenCV PyTorch TensorFlow Matplotlib Scikit-learn NumPy Seaborn Streamlit Pandas

RELEVANT COURSES

Data Science, Signals, Systems and Random Processes, Data Structures and Algorithms, Software Tools and Techniques for AI, Machine Learning, Probability, Statistics, and Data Visualization, Data-Centric Computing, Linear Algebra, and Engineering Optimization.

POSITIONS OF RESPONSIBILITY

Event Coordinator (Industrial Relations and Projects Council, IITGN) Aug '24 - Apr'25

- Led a team of fifteen people, hosting various events for the **professional development** of the student community.
- Facilitated enriching talks and workshops on industry-related subjects for students' practical experience.

EXTRA CURRICULAR

- Cultural Competitor, IITGN:** Represented IITGN at Inter-IIT Cultural Meet 5.0 and 8.0 (Dance/Street Battle) 2023-25
- Roller Skating Athlete:** Secured 3rd place at the National Championship, Indore (Under-14) 2015