

# Jay Vardhan Sharma

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## Education

**Birla Institute of Technology, Mesra**

Nov 2022 – May 2026

Bachelor of Technology, Computer Science Engineering

- CGPA: 7.64/10

## Skills

**Languages:** Java, Python, SQL

**Machine Learning & Data:** Interpretable ML, Anomaly Detection, Feature Engineering, Scikit-learn, NumPy, Pandas, Matplotlib

**Systems & CS Core:** Data Structures and Algorithms, Object-Oriented Programming, Database Management Systems, Operating Systems, Cryptography and Network Security, Large-scale Transactional Data Analysis

## Experience

**Institute of Community Development (ICD), Jaipur**

Oct 2025 – Nov 2025

Data Analytics & Financial Transparency Associate

- Designed a **lightweight, explainable financial analysis framework** using rolling statistics.
- Implemented **duplicate and redundancy detection** via fuzzy matching, uncovering reporting inconsistencies across vendor and transaction records.
- Translated analytical findings into clear, non-technical explanations to support ethical financial decision-making.

**Office of the Principal Accountant General (A&E), Rajasthan**

May 2025 – July 2025

AI/ML & Data Analyst Intern

Code Repository

- Designed an **interpretable anomaly-detection pipeline for large-scale government audit data**, enabling prioritization of high-risk transactions and reducing manual audit scope by **95%**.
- Engineered **40+ domain-driven compliance features** (GST/IT flags, election proximity, rolling windows), improving risk separation between normal and anomalous transactions across audit periods.
- Reduced audit scope from full-dataset review to the **top 4–5% high-risk transactions**, significantly improving audit efficiency while preserving auditor trust.
- Collaborated with senior audit officials to validate model outputs and explain risk signals for practical adoption.

## Research & Publications

**Moving Beyond Black Boxes with Interpretable Anomaly Detection in Government Finances**

IEEE Xplore Digital

Jay Vardhan Sharma, Piyush Gupta, Netresh Khanna

IEEE 5th International Conference on ICTBIG (2025)

Interpretable anomaly detection using domain-driven features and statistical modeling, evaluated on real-world public finance audit data.

## Projects

**Online Educational Platform**

SmartHub

- Designed a **scalable educational platform** providing free learning resources, mentorship access, and career guidance for diverse student groups.
- Developed an **AI-powered quiz and assessment system** to evaluate learner understanding and dynamically adapt content based on performance signals.
- Emphasized **system design and usability**, integrating modular backend logic with interactive UI components.

**Web Portfolio**

Gallery

## Additional Training

Python for Data Science (IBM); Advanced Java & Data Structures — self-directed coursework

## Position of Responsibility

**Google Developer Student Clubs (GDSC), Java Lead**

2022 – 2025

- Mentored **150+ students** in Java fundamentals, cloud computing, and structured problem-solving, facilitating a **30% increase** in student project completion rates within the community.

**The Literature Club, Lead**

2022 – 2025

- Facilitated structured discussions on sociotechnical themes, increasing average forum participation by 25%.