

Nyasha Ojha

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Education

Bachelor of Technology - Computer Science and Engineering

VIT Bhopal University

Expected May 2026

CGPA: 8.17

Relevant Coursework: Data Structures & Algorithms, Java programming, Machine Learning, System Design, Database Management Systems

Skills

- **Programming Languages:** Java, Python, SQL (PostgreSQL/MySQL, MongoDB).
 - **Core Engineering & Fundamentals:** Object-Oriented Programming, Data Structures & Algorithms, System Design
 - **Web & Backend Frameworks:** HTML, CSS, JavaScript, Spring Boot, Flask, Streamlit, REST API design
 - **DevOps & CI/CD:** CI/CD pipeline implementation (GitHub Actions), AWS, Git
 - **Data & Analytics:** Scikit-learn, Pandas, NumPy, Time-Series Analysis, Flask, Streamlit
- Languages:** English, Hindi, Telugu, Bengali

Open Source Project

CaseLawAI - Jr Machine Learning Engineer

Omdena (USA Local Chapter) | AI/ML, NLP, LegalTech | May 2024 - July 2024

- Built and fine-tuned ML/DL models (CNN, LSTM) for detecting patterns in employment discrimination cases, boosting classification accuracy by 18% and reducing review time by ~30%.
- Processed 6,000+ case records by implementing regex-based preprocessing and optimizing the full data pipeline for higher data quality and efficiency.
- Collaborated with a 57-member global team using GitHub/Notion/Slack; project was featured as Omdena LegalTech “Project of the Month” for innovative workflow and model benchmarking.

Projects

Urban Planning Using Satellite Imagery - Team Lead, Geospatial AI

Academic Project | VIT Bhopal University | Sep 2024 - May 2025

- Led a 10-member team to develop AI models for smart city planning using 556 satellite datasets and 3000+ annual samples over 100 km²
- Designed models for population forecasting, road network analysis, land use classification, and water demand estimation, improving resource prediction by ~20%
- Applied Python, Scikit-learn, Earth Engine, QGIS, time-series analysis, GitHub, and Notion for geospatial processing, model building, visualization, and team collaboration

Java Log File Processor

Individual Project | Software Engineering, Automation, Data Processing

- Built a Java CLI tool for high-volume log parsing, reducing analysis time and improving data processing scalability.
- Implemented optimized search algorithms, efficient buffered I/O, and structured error handling for reliability.
- Applied modular OOP design supporting future integration into enterprise monitoring workflows.

Research Experience

Post-Quantum Blockchain Research — *Journal of Data Science and Mathematical Cryptography (JDMSC)*, July 2025

- Co-authored a peer-reviewed paper proposing a hybrid lattice-based cryptographic algorithm integrating subset generation with SVP to improve resistance against quantum attacks.
- Enhanced algorithmic efficiency in post-quantum blockchain security models, contributing to future-proof cryptographic systems.

Awards and Achievements

- Founder and Core Member, Developer's Club: Managed 27-member team, led 2 projects, organised annual events for 210+ attendees, boosting engagement by 40%.
- Represented the school as a core debate team member by participating in multiple inter- and intra-school competitions, refining skills in public speaking, critical thinking, and persuasive communication.
- Debate Team (Core Member): Enhanced public speaking, stakeholder communication, and analytical presentation

Hobbies & Interests

Certified drummer (3 years, Rock School of London), state level youth boxing participant, and an avid follower of Formula 1 racing