

AADARSH KUMAR

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EDUCATION

Visvesvaraya National Institute of Technology

2022- 2026

B.Tech in Chemical Engineering - **CGPA - 7.72(current)**

Nagpur, Maharashtra

TECHNICAL SKILLS

Machine Learning & Deep Learning, Generative AI (LLMs, Prompt Engineering, Fine-Tuning), Natural Language Processing, PyTorch, LangChain & RAG Architecture, Model Deployment(FastAPI/Streamlit/Gradio), Docker & Git,SQL & Pandas , Python, Power BI, SQL, Advance Excel

PROJECTS

VASS Carbon Nanotubes | Capacity Building Design & Entrepreneurship Program

2025

- Received funding of Rs. 44,000 under CBDE program, converting plastic waste into high-purity CNTs.
- Optimized a scalable pyrolysis process by adjusting temperature, catalyst composition, and reaction time.

Industrial Equipment Anomaly Detection & Predictive Maintenance System 🔗

2025

- Spearheaded the development and optimization of an **XGBoost-based** predictive maintenance pipeline on a 10,000-record, multi-sensor dataset—achieving **95% test accuracy** and a **0.92 F1-score** in binary failure detection.
- Engineered a **SMOTE-driven** imbalance-handling strategy to amplify the rare 0.18% failure signal, delivering a **40% recall** improvement and accurately classifying Power, Overstrain, and Tool Wear failure modes.

Loan Approval Prediction 🔗

2024

- Developed a loan approval prediction model with Logistic Regression, **Random Forest**, and **Gaussian Naive Bayes (GNB)**, achieving 85% accuracy using Python, Pandas, and **Scikit-learn**.
- Optimized financial decision-making by analyzing income and credit history data, achieving 80% precision and a 79% F1-score through advanced machine learning techniques.

Pizza Sales Analysis 🔗

2024

- Key-Metrics Calculation:** Evaluated key performance indicators, including total revenue (\$817.7K+), average order value (\$38.31), total pizzas sold (49,000+), total orders (21,000+), and average pizzas per order (2.32).
- Trend Analysis and Visualization:** Created comprehensive visualizations, including pie and funnel charts, to assess sales distribution and product performance; insights led to reallocation of marketing resources, improving ROI by 20%.

Positions of Responsibilities

Indian Institute Of Chemical Engineers | Secretary, Nagpur Regional Centre

(Oct 2024- Present)

- Led a team of **10+ members** to organize 5+ technical workshops and networking events, enhancing engagement and professional development for **200+** chemical engineering students.

Millennium Campus Network(MCN) | Millennium Fellow, United Nations

(Aug 2024 - Dec 2024)

- Partnered with a diverse team of 10 to advance the UN's Sustainable Development Goal: Good Health and Wellbeing, with a focus on advocating for mental health within the university community.

Entrepreneurship Cell, VNIT | Corporate and Communications Manager

(Aug 2023 - Present)

- Forged relationships with corporate partners, securing sponsorships and collaborations. Spearheaded communication strategies for club activities, boosting visibility and membership by **15%**.

Department of Chemical Engineering, VNIT| Alumni Secretary

(Aug 2023 - Aug 2024)

- Engaged 500+ alumni through strategic communications, spearheaded alumni meet-ups and networking events connecting students with professionals, and managed the alumni database, maintaining data accuracy.

EXTRACURRICULARS

- Represented my department at Institute Gathering 2025 in Basketball, clinching the gold medal.
- Spearheaded Startup Expo 2024 at the institute's Management Fest, coordinating over 20 team members to empower 10+ startups in pitching and showcasing their ventures.
- Secured 2nd Place in Inter-school Kabaddi and Volleyball Tournaments