

BHUPENDRA SINGH

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ABOUT ME

Recent **B.Tech CSE graduate** currently pursuing **PGDM in Data Science & Analytics (Applied AI)**, with practical experience in **Machine Learning, Generative AI, and Data Engineering**. Skilled in **Python, SQL, and data preprocessing**, with exposure to **LangChain, OpenAI API, and Hugging Face** for building **LLM-based AI agents and RAG pipelines**.

Completed **Generative AI with Agentic AI** from Udemy, gaining hands-on expertise in **AI automation, retrieval-augmented generation, and enterprise AI workflows**. Passionate about developing **data-driven, intelligent solutions** that optimize efficiency and solve real-world problems.

EDUCATION

Imarticus Learning, Bangalore

PGDM in Data Science and Analytics with Applied AI (Pursuing)

Aug 2025 – Present

- Coursework: Advanced ML, Deep Learning, Applied AI, and Big Data.
- Focus: **Building scalable AI pipelines** and deploying **data-driven business intelligence solutions**.

Poornima University, Jaipur

B.Tech in Computer Science and Engineering (2021 – 2025)

CGPA: **7.0 / 10**

O.P. Jindal School, Raigarh (C.G.)

CBSE (2020 – 2021) – **80%**

EXPERIENCE

AI/ML Intern – Computer Vision (Pole Validation Project)

VertEx Plus Technologies Ltd. | May 2025 – July 2025

- Developed an **AI-powered pole detection system**, achieving **95%+ accuracy** using CNN models.
- Automated **data preprocessing and annotation**, reducing manual effort by **70%** and processing over **10,000+ images**.
- Deployed and validated the system, improving detection efficiency by **60%** across test datasets.

Data Science Intern

Celebal Technologies | May 2024 – Aug 2024

- Processed and analyzed datasets of **500K+ rows**, performing **ETL, feature engineering, and EDA** with **Python and SQL**.

- Created **Power BI dashboards** improving business decision-making time by **30%**.
 - Contributed to client deliverables that led to a **20% improvement in data quality metrics**.
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PROJECTS

1. AI-Based Job Preparation & Search Platform

Tools: Python, Streamlit, OpenAI API, RapidAPI, LangChain, BeautifulSoup

- Built a **GenAI-powered career assistant** helping users prepare for specific domains while showing **live job opportunities**.
- Integrated an **LLM chatbot (OpenAI)** that provides **domain-wise interview prep, mock Q&A, and personalized learning paths**.
- Utilized **RapidAPI** for real-time job fetching and **LangChain** for contextual responses.
- Designed a modular backend enabling **50+ concurrent users** with smooth API integration.
- Improved user engagement and session duration by **45%** during prototype testing.

2. Auto EDA Generator (AI-Powered Data Analysis Tool)

Tools: Python, Streamlit, Pandas Profiling, OpenAI API

- Created an **automated EDA generator** that produces analytical reports in under **15 seconds per dataset**.
- Incorporated **OpenAI API** to summarize insights in natural language, reducing manual analysis time by **80%**.
- Helped non-technical users interpret data by generating visual and text-based summaries automatically.

3. Bangalore Traffic Optimization Using Machine Learning (Ongoing)

Tools: Python, Pandas, Scikit-learn, Power BI, GeoPy

- Developing a **predictive traffic optimization model** to reduce congestion in Bangalore using **real-time data and ML**.
- Analyzing **1M+ GPS entries and live API data** to forecast high-traffic zones with **up to 85% accuracy (target)**.
- Designing a **dynamic route suggestion system** to improve average commute time by **15-20%**.
- Building a **Power BI dashboard** visualizing live congestion hotspots and route recommendations.

4. Violence Detection Using InceptionV3 + LSTM

Tools: TensorFlow, OpenCV, NumPy, Matplotlib

- Designed a hybrid **InceptionV3 + LSTM** model for **violence detection** in surveillance feeds.
 - Achieved **92% accuracy, 0.88 precision, and 0.90 recall** on the **RWF-2000 dataset**.
 - Improved detection robustness by integrating **temporal motion sequences** with spatial features.
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SKILLS

Programming & Tools: Python, SQL, Git/GitHub, Jupyter Notebook, Excel

AI & ML Frameworks: scikit-learn, TensorFlow, PyTorch, OpenAI API, LangChain, Hugging Face

Data Engineering: ETL Pipelines, Feature Engineering, Data Cleaning, Power BI, Snowflake (Basic)

Cloud & Deployment: AWS (EC2, Lambda, SageMaker basics), Streamlit, Flask

Data Visualization: Power BI, Matplotlib, Seaborn

Soft Skills: Communication, Analytical Thinking, Collaboration, Problem-Solving

CERTIFICATIONS & ACHIEVEMENTS

- **Generative AI with Agentic AI** – *Udemy*
 - **Center of Excellence in Data Science Domain** – *Celebal Technologies*
 - **Data Science Internship** – *Celebal Technologies*
 - **C++ Certification** – *Coding Ninjas*
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EXTRACURRICULARS & INTERESTS

- **Football:** Led college team to **All India University Quarterfinals**; State-level **Runner-Up**.
- **Content Creation:** Share **fitness and motivational content** on social media with growing engagement.
- **Continuous Learning:** Exploring **RAG pipelines, AI agents, and predictive AI systems** for real-world optimization.