

Indian Institute of Technology Bhilai

Deepak

BTech - Data Science and Artificial Intelligence

Semester: 7

Roll Number: 12240510

Personal Information

- Date of Birth: 01-01-2004
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Educational Qualifications

| Qualification | Subject / Specialization | University/ Board | Institute/ School | Year of Passing | Discipline | Marks/ CGPA/ GPA |
|------------------|----------------------------------|---------------------------------------|--|-----------------|--|------------------|
| BTech (Pursuing) | Computer Science and Engineering | Indian Institute of Technology Bhilai | Indian Institute of Technology Bhilai | 2026 | Data Science and Artificial Intelligence | 5.66 |
| 12th | PCM | UP Board | Baba Hardev Singh Inter Colleg Labhari, Bareilly | 2021 | PCM | 71.20 |
| 10th | | UP Board | Baba Hardev Singh Inter Colleg Labhari, Bareilly | 2019 | | 61 |

Technical Skills

- Programming & Scripting Languages: Python, C++, SQL, HTML, CSS (Advanced)
- AI/ML & LLM Frameworks: PyTorch, TensorFlow, Hugging Face Transformers, Scikit-learn, Keras, OpenCV, Matplotlib, NumPy, Pandas (Advanced)
- LLM & RAG Tools: LangChain, FAISS, Prompt Engineering, LoRA, Unslloth, Hugging Face Datasets (Intermediate)
- Databases & DevOps: MySQL, MongoDB, Git, Docker, Linux, REST APIs (Advanced)
- Data Science Skills: Data Analysis, Data Visualization, Web Scraping (Advanced)
- Soft Skills: Teamwork, Event Management, Technical Presentations, Documentation (Advanced)
- Non Technical: Event Management, Team Work, Presentation Skills (Advanced)

Scholastic Achievement

- JEE Advanced, Secured Top 1 % in JEE(Advanced), Joint Entrance Examination for IITs (2022)
- JEE Mains, Secured qualified among 1.03 million candidates appearing for the test (2022)

Internship

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| • Machine Learning Research Intern IIT Bhilai Fine-tuning a legal domain AI chatbot using large language models and curated Indian legal datasets. Scraped legal data from multiple sources and converted unstructured content into clean QA format using Python and JSON preprocessing. Trained the Unslloth LLaMA 3 8B Instruct (4-bit) model with LoRA adapters using Hugging Face's SFTTrainer. Executed model training on an NVIDIA RTX A5000 (24GB) GPU with checkpointing and memory op | (05-02-2025 to 04-06-2025) |
| • Computer Vision Intern IIT Bhilai Under by Dr. Nitin Khanna Collaborated on crater detection using the Segment Anything Model (SAM) and YOLOv8 to enhance accuracy and efficiency. Applied advanced deep learning techniques for precise segmentation and recognition of craters in planetary imagery. Focused on optimizing model performance for universal applicability across diverse terrains | (May. 2024- Jul. 2024) |
| • Data Science Intern – Encryptix - Worked on an end-to-end data science pipeline, including data scraping, cleaning, analysis, and visualization using Python and relevant libraries. - Performed feature engineering and built predictive models using Random Forest and Gradient Boosting techniques. - Evaluated model performance using metrics like accuracy, precision, and ROC-AUC. - Tools & Technologies: Python, Pandas, Matplotlib, Seaborn, Scikit-learn, AWS EC2/S3 | (april. 2024- Jun. 2024) |
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Position of Responsibility

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| • Head, Student Suggestion Forum – IIT Bhilai. Led a student-driven initiative to address academic, hostel, and campus-related concerns. Acted as a bridge between students and administration, helping resolve issues for a community of 800 to 1,000 students. | (Apr 2024 - Apr 204) |
| • Head, Management Committee – CoSA 2024–25, IIT Bhilai. Managed and coordinated a team of 40–50 student coordinators and volunteers. Oversaw the planning and execution of college fests, cultural programs, and various student activities under the Council of Student Affairs. | (Apr 2024 - Apr 204) |
| • Convenor, Meraz 5.0 Informals – IIT Bhilai's annual techno-cultural fest. Managed and coordinated informal events, logistics, and team activities. Contributed to organizing a large-scale fest with over 9,000–10,000 visitors, including participants from various colleges. | (Sept 2024 - Nov 2024) |

Projects

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| • Invoice Extraction Using LLaMA 3.2 Vision Model https://github.com/Deepak-IITBh/Ai-agent-for-Invoice-Gneration Developed an AI-powered invoice extraction system using LLaMA 3.2 Vision Model and Groq API for OCR-based text extraction.– Built a Streamlit-based web app that processes invoice images and exports structured data in JSON & CSV formats.– Designed robust data validation pipelines using Pydantic, ensuring clean and correctly formatted invoice details.– Implemented batch processing for multiple invoices via ZIP file uploads, enhancing scalability. | (Aug. 2024– Nov. 2024) |
| • Fine-Tuning LLM on Telecom Q&A Dataset (BLEU Score: 0.43) Fine-tuned the LLaMA2-7B language model on domain-specific telecom Q&A datasets to improve response accuracy and user experience. Used QLoRA (via PEFT) for parameter-efficient fine-tuning and LoRA to reduce training overhead while maintaining model performance. | (Jul 2024 – Sept 2024) |
| Achieved a BLEU score of 0.43 and evaluated the model using ROUGE metrics. Technologies: Python, SFT, QLoRA, LoRA, ROUGE, BLEU | |

• ZeroShot Text-to-Image Generator
Course Project, CS550 Machine Learning Dr Rajesh Mundotiya, IIT Bhilai
<https://github.com/Deepak-IITBh/Zeroshot-Text-to-ImageAI>
– Developed a deep learning model for generating high-quality images from textual descriptions using Stable Diffusion.
– Integrated a transformer-based text encoder with GANs for zero-shot text-to-image synthesis.
– Optimized image generation pipeline using CLIP ViT-L/14 encoder, U-Net, and VAE with OpenVINO.

Strengths

- Skilled in Python, C++, and AI/ML frameworks like PyTorch and TensorFlow. Experienced in LLM fine-tuning, RAG tools (LangChain, FAISS), and deploying AI solutions (Streamlit, Docker). Delivered full-stack projects (invoice extraction, QA bots) and excelled in research internships (NLP, computer vision). Effective team leader, event manager, technical presenter, and fast learner with strong analytical skills.

Others

- Adaptable and quick to learn new technologies and domains. Passionate about creative projects and collaborative environments. Consistently contribute fresh ideas and critical thinking to team efforts. Reliable in meeting deadlines, managing multiple tasks, and supporting peers. Eager to take initiative, receptive to feedback, and committed to personal and professional growth in dynamic environments.