Deepak

Passionate AI/ML Engineer
B.Tech- Data Science & Artificial Intelligence
Indian Institute Of Technology, Bhilai

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EDUCATION

Indian Institute of Technology, Bhilai   *Graduation: 2026*
B.Tech in Data Science & Artificial Intelligence

Work Experience & Internship

Machine Learning Research Intern| IIT Bhilai Feb 2025 – Jun. 2025 *Certificate Link*

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 **Unsloth LLaMA 3 8B** Instruct (4-bit) model with LoRA adapters using Hugging Face's SFTTrainer.

Executed model training on and NVIDIA RTX A5000 (24GB) GPU with checkpointing and memory optimization.

Data Science Intern | Encryptix 25 May to 25 June, 2024. Certificate Link

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

Projects

- **Invoice Extraction Using LLaMA 3.2 Vision Model**   *Aug. 2024 – Nov. 2024*
  Live Demo   Github

  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 and efficiency.

  Successfully deployed the application on Render, making it accessible online for real-world usage.

  Fine-Tuning LLM on Telecom Q&A Dataset (BLEU Score: 0.43)
  Jul 2024 – Sept 2024   Github

  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.

  Achieved a BLEU score of 0.43 and evaluated the model using ROUGE metrics.

  Technologies: Python, SFT, QLoRA, LoRA, ROUGE, BLEU.

Technical Skills

- **Programming & Scripting Languages**: Python, C++, SQL, HTML, CSS
- **AI/ML & LLM Frameworks**: PyTorch, Hugging Face, Scikit-learn, OpenCV, Matplotlib, NumPy, Pandas.
- **LLM & RAG Tools**: LangChain, FAISS, Prompt Engineering, LoRA, Unsloth, Hugging Face Datasets
- **Databases & DevOps**: MongoDB, Git, Docker, Linux, REST APIs
- **Soft Skills**: Teamwork, Event Management, Technical Presentations
- **Non Technical**: Event Management*, Team Work, Presentation Skills*   * *Elementary proficiency*

Positions of Responsibility

- **Head** ,of Student Suggestion Forum, IIT Bhilai   *Apr. 2024 - Apr. 2025*
- **Head** , of Management Committee CoSA 2024-25 IIT Bhilai   *Apr. 2024 - Apr. 2025*
- **Convenor**, Meraz 5.0 Informals Convenor, IIT Bhilai   *Sept 2024 - Nov 2024*

Achievements

- **JEE Advanced 2022**, Secured **Top 2 %** in JEE(Advanced), Joint Entrance Examination for IITs   *2022*
- **JEE Mains 2022**, Secured **qualified** among 1.3 million candidates appearing for the test   *2022*

Extracurriculars

- **Student Volunteer**, Student Mentorship Program (SMP) IIT Bhilai
- **Coordinator**, Meraz 4.0 Informals, Event IIT Bhilai

All certifications are attached

- **Click Here**,