OM JAIN

AI Engineer | Deep Learning & LLMs

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SUMMARY

AI Engineer specializing in Deep Learning, LLMs, and Applied Machine Learning. Proficient in Transformer architectures, RNN-based models, and computer vision using TensorFlow and PyTorch. Strong foundation in algorithms, mathematical modeling, and end-to-end deployment of intelligent systems. Designing scalable AI pipelines integrating data preprocessing, model optimization, and high-performance inference for real-world applications.

EDUCATION

- **Indian Institute of Technology, Kharagpur** — *2023 – 2027*
  B.Tech. (Hons.), Chemical Engineering — *CGPA: 8.33/10*
- **Denialson (E.M.) H.S. School, Chhindwara** — *2023*
  Class XII (M.P. Board) — *Percentage: 88%*

PROJECTS

Document Intelligence Q&A System (RAG-based) GitHub

- Engineered **document Q&A** via **transformer embeddings** for PDF queries at **3s** latency and high accuracy
- Architected **end-to-end** ingestion for **multi-page** docs via **chunking**, **vector indexing**, and semantic search
- Implemented **RAG** with **top-k** context selection to enhance result relevance and minimize model hallucinations
- Deployed modular **backend** with API-based querying, **validation**, and **error handling** for scalable workflows

Mini Transformer-Based Character-Level Language Model GitHub

- Built compact **decoder-only** Transformer in TensorFlow with **4 layers** and **4 heads** for next-char prediction
- Trained on **Tiny Shakespeare** (seq-len 128, ff-dim 256) achieving **<1.5 perplexity** with smooth convergence
- Implemented **top-k** sampling with weight tying, reducing parameters by **∼2**× and improving inference efficiency

U-Net Based Image Denoising Pipeline GitHub

- Built U-Net image denoising model trained on **5k noisy/clean** pairs, achieved **∼30 dB** PSNR on validation-set
- Enhanced training via **augmentation** increasing dataset variance by **4**×; enabled stable Colab GPU workflow

Time Series Demand Forecasting (LSTM & GRU) GitHub

- Trained **LSTM, GRU**, and **seq2seq** models for demand forecasting by TensorFlow on airline passenger dataset
- Built automated CLI with **early stopping** and **reproducibility** across 1k epochs, achieving sub-**30% RMSE**

SKILLS AND EXPERTISE

- **AI & ML Frameworks:** TensorFlow | PyTorch | Keras | scikit-learn | XGBoost | OpenCV
- **Programming Languages:** Python | C++ | JavaScript | TypeScript | SQL
- **Core ML Concepts:** Deep Learning | LLMs | NLP | Computer Vision | Transformers | RNNs | Self-Attention
- **MLOps & Deployment:** Docker | AWS | Git | GitHub | FastAPI | REST APIs | Model Optimization
- **Data Science Stack:** NumPy | Pandas | Matplotlib | Seaborn | Data Preprocessing | Feature Engineering
- **Development Tools:** VS Code | Jupyter | Google Colab | Linux | Local GPU Training | Kaggle | HuggingFace

FULL-STACK ENGINEERING (SECONDARY SKILLS)

- Built MERN-stack apps with **25+ REST APIs, CRUD, JWT**, and optimized backend latency under **200ms**
- Developed reusable **React** components & implemented state management with **Redux Toolkit** improving UI

SELECTED COURSEWORK

Deep Learning | Machine Learning | Natural Language Processing | Generative AI | Probability & Statistics | Linear Algebra | Optimization | Data Structures & Algorithms | Computer Vision | Database Management Systems

ACHIEVEMENTS

- Ranked at top **15%** on Codeforces; solved **450+** algorithmic problems across LeetCode, AlgoZenith, and GfG
- Gold in **Product Management GC 2024–25** leading AI-based insurance app architecture with automations
- Secured branch change with **8.69 CGPA**, ranked top **5%** among 1800+ students showing academic excellence

EXTRACURRICULARS

- **Sports:** Football team, NSO; organized institute-wide tournaments fostering collaboration and campus wellness
- **Tech:** Participated in **GC & Open IIT** events (Case Study, Data Analytics, Product Design & Management)
- **Cultural:** Contributed to **Rangoli & Illumination** 2024 and competed in **Spring Fest E-Sports** (BGMI)