VINAYAK SAHU

Diving Into AI/ML
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Portfolio: portfolio-delta-two-15.vercel.app/

Summary

A third-year aspiring Data Scientist and AI Engineer, I developed core competencies in artificial intelligence and machine learning through practical, project-based learning. I implemented solutions in computer vision, natural language processing, and deep learning using Python, TensorFlow, and PyTorch. I also utilized GPU acceleration and integrated large language model (LLM) APIs to optimize model performance and scalability.

Education

Kalinga Institute of Industrial Technology (KIIT)
BTech in Computer Science
Bhubaneswar, Odisha | 2023 - 2027

Technical Skills

- Languages & Frameworks: Python, Java, HTML/CSS, Git, GitHub.
- Libraries & Tools: TensorFlow, PyTorch, OpenCV, Pandas, NumPy, Scikit-learn, Matplotlib, Hugging Face Transformers, LlamaIndex, LangChain.
- Data Analytics: Power BI, Tableau, Pandas Profiling, Advanced Excel, Google Data Studio.
- GPU/Cloud Integration: CUDA, Kaggle Kernels, Hugging Face Inference Endpoints.
- Other Tools: VS Code, Jupyter Notebook, Netlify, Streamlit.
- Soft skills: problem-solving, initiative, leadership, teamwork.

Projects

- **Reel2Retail** – https://github.com/07Codex07/Reel2Retail

A video-to-product matching system that detects fashion items in social media reels and matches them with items in a product catalog using YOLOv8, CLIP embeddings, and FAISS similarity search.
- Implemented frame-wise object detection using YOLOv8n for lightweight, real-time GPU-based inference.
- Applied OpenAI CLIP for embedding image and text features into the same semantic space.
- Indexed catalog using FAISS for high-speed similarity matching.
- Tackled challenges like frame redundancy and noisy detections using frame differencing and confidence thresholding.
- Included NLP based keyword classifier for vibe prediction.
- Reduced API latency issues using local caching and asynchronous fetch logic.

- **Your Next Watch** – https://github.com/07Codex07/Your-Next-Watch

An intelligent movie recommender system powered by content-based filtering.
- Used TF-IDF vectorization to build feature embeddings based on movie metadata.
- Applied cosine similarity to generate top-N recommendations.
- Developed a clean and interactive UI using Streamlit.
- Model optimized using GPU-based computation for scaling similarity checks.

- **Book Recommender System** – https://github.com/07Codex07/Book_Recommender

A personalized book recommendation engine utilizing collaborative filtering.
- Engineered with Pandas, NumPy, and Scikit-learn, Matplotlib.
- Addressed data sparsity by applying KNN-based imputation.
- Explored GPU acceleration for matrix similarity scoring.

Certifications

- **Supervised Machine Learning: Classification** — IBM (Mar 2025) — Credential ID B2DJ3GRE67G5
- **Unsupervised Machine Learning** — IBM (Mar 2025) — Credential ID GOKSDKRYL9L1
- **Supervised Machine Learning: Regression** — IBM (Mar 2025) — Credential ID T8UBYGNR3Y4Z
- **Exploratory Data Analysis for Machine Learning** — IBM (Jan 2025) — Credential ID 1BHHHGVRY5IP