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Tasmayu Swain

Machine Learning Developer

B.Tech
Male
DOB: 18-07-2006

Examination	University	Institute	Year	CGPA
Graduation	GGSIPU	MAIT	2024-2028	9.04
Specialisation:	Computer Science Engineering			

SUMMARY

Aspiring Machine Learning Developer, passionate about building impactful AI solutions using LLMs, Deep Neural Networks and Reasoning models. Dedicated to contributing to open-source projects and excited to grow through hands-on experience with MLOps.

Skills & Areas of Interest

Python | PyTorch | TensorFlow | Hugging Face | Docker | LangChain | Deep Learning | Machine Learning | NLP

Experience & Involvement

- **BYTE (MAIT) | Member | Machine Learning department** *(Aug'25-present)*
  - Official coding society of MAIT, contributed to insightful projects with weekly research paper reading
  - Actively participating in **weekly research paper discussions** focusing on recent advancements in AI and ML
  - Collaborate with peers on **hands-on machine learning projects** to strengthen practical understanding
- **Kaggle Competitions** *(Ongoing)*
  - Active Playground Series competitor

PROJECTS

- **PLEXUS AI** *[GitHub]*
  Multimodal AI | LLM | Groq Cloud | Gradio | Llama 3.3 70B | OpenAI Whisper
  - Multimodal AI doctor predicting disease from image/webcam in real time with audio conversation and preventive guidance
  - Outputs both as speech and text, providing comprehensive health insights
- **AURA: Research Assistant** *[GitHub]*
  Generative AI | RAG | LangChain | FastAPI | ChromaDB | Python
  - Multimodal RAG research assistant providing analyses on arXiv papers with citation-aware reasoning
  - Developed intelligent prompt analysis system for enhanced research workflow
- **Phishing URL Classification** *[GitHub]*
  NLP | BERT | TinyBERT | Hugging Face | Python
  - Fine-tuned TinyBERT to classify URLs using the `shawhin/phishing-site-classification` dataset
  - Achieved high accuracy in detecting phishing attempts through advanced NLP and finetuning techniques
- **GEN-RESIST: Antibiotic Resistance Prediction via Genome Sequence Analysis**
  Bioinformatics | GNN | GAT | Deep Learning | BioPython | Python
  - Developed a deep learning pipeline for predicting antibiotic resistance genes from genome sequences using Graph Neural Networks (GNN) and Graph Attention Networks (GAT)
  - Utilized k-mer encoding & sequence embeddings to improve gene pattern recognition and resistance classification accuracy
- **GPT-2 Architecture From Scratch**
  Deep Learning | Transformer | PyTorch | Python
  - Built 125M-parameter GPT-2 transformer in PyTorch from scratch
  - Insight from Sebastian Raschka's "Build LLM From Scratch" guide

Hackathons

- **T-Hacks 8.0 (AGDIMS College) — AURA: Gen-AI Research Assistant** **Top 10/700+**
  Hackathon | Generative AI, RAG, LangChain, FastAPI
  - Achieved **Top 10 rank out of 700+ teams** at T-Hacks 8.0, recognized for innovation in Generative AI
  - Developed AURA, a Gen-AI based assistant generating concise research paper summaries with citations

- **HACKLLM (IIIT Delhi) — Team GALACTUS: Detecting LLM Hallucinations** **Top 50/110**
  Hackathon | LLM Evaluation | Mistral-7B | DeBERTa
  - Developed pipeline to detect **LLM hallucinations** using retrieval-augmented verification
  - Leveraged insights from **SHROOMS** paper; integrated Mistral-7B for generation and DeBERTa for evaluation
  - Secured **Top 50 of 110 teams**; emphasized reproducibility and interpretable evaluation
- **ISRO BHARATIYA ANTARIKSH HACKATHON (BAH 2025) — PM2.5 Estimation System**
  Hackathon | Environmental Data Science | MOSDAC | NASA Data
  - Presented idea about PM2.5 estimation via heat-map over Indian regions
  - Utilized **ISRO MOSDAC and NASA data**; included cloud screening and radiance-to-reflectance conversion

TECHNICAL SKILLS

- **Programming Languages:** Python, C, C++, Java
- **Tools and Libraries:** PyTorch, TensorFlow, Keras, Matplotlib, NumPy, Pandas, Scikit-learn, Docker, GitHub, Gradio, FastAPI, LangChain, RAG, ChromaDB, Hugging Face, BioPython

RELEVANT COURSES & CERTIFICATIONS

- **Machine Learning Specialization — Stanford Online**
- **By Andrew Ng | Comprehensive specialization in Deep Learning, Machine Learning**