

SHUBHAM BAGHEL

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LinkedIn

GitHub

Portfolio

LeetCode

GFG

EDUCATION

National Institute of Technology, Kurukshetra(3rd Year)

B-Tech: Artificial Intelligence and Machine Learning

2023- June 2027

Kurukshetra, India

PROJECTS

Mini GPT | PyTorch, Deep Learning, Transformer Architecture



Sept-Oct 2025

- Implemented the complete GPT-2 architecture (124M parameters) from scratch in PyTorch, including custom tokenizer, embeddings, and dataloader without relying on external libraries.
- Built the full Transformer architecture, implementing Multi-Head Self-Attention, GELU activation, Layer Normalization, and residual connections to match GPT-2's original design.
- Developed the end-to-end text generation pipeline with autoregressive decoding, temperature sampling, and integrated LoRA finetuning using open-source GPT-2 weights.

Job Ready AI ↗ | Llama 3.3, LangChain, Streamlit



Oct-Dec 2024

- Built an intelligent RAG-powered assistant using Llama 3.3 and LangChain to dynamically generate job-tailored resumes aligned with target keywords and JD requirements.
- Expanded functionality to craft personalized cover letters and cold emails, and integrated an ATS scoring system for instant evaluation of resume effectiveness.
- Implemented semantic resume analysis using Sentence Transformers to extract strengths, weaknesses, and missing keywords, delivering actionable insights for career optimization.

Stable Diffusion XL Based Facial Aging System | Generative Deep Learning



Nov 2025

- Developed a generative AI system using Stable Diffusion XL (Image-to-Image) that performs controllable facial aging and rejuvenation (15–75 years) by training DreamBooth LoRA models and mixing their weights while keeping identity intact.
- Fine-tuned diffusion models on the IMDB-Wiki dataset and experimented in prompt engineering, model optimization, LoRA weight interpolation, and inference acceleration to improve quality and speed.
- Built the complete AI application pipeline: dataset preprocessing scripts and LoRA training using HuggingFace Diffusers and Accelerate.

WORK EXPERIENCE

National Institute of Technology, Kurukshetra-ISRO Funded Project ↗

Dec 2024 – April 2025

Undergraduate Research Assistant

Kurukshetra, India

- Conducted research on GNSS anti-jamming, recovering signals from stronger interference.
- My contribution involved analyzing RC, MLP & LSTM performance against various jamming types.
- Contributed by building the data pipeline to process raw GNSS I/Q signals for the project.

TECHNICAL SKILLS / COURSEWORK

Languages: Python, C, C++, SQL, HTML, CSS

Frameworks: PyTorch, TensorFlow, Scikit-learn, LangChain, Hugging Face, FastAPI, OpenCV

Developer Tools: VS Code, PyCharm, GitHub, Postman, Google Colab, Microsoft Azure, Ollama, Cursor

Core Coursework: DSA, Operating Systems, DBMS, OOP, Machine Learning, Deep Learning, Generative AI (LLMs & RAG), Computer Vision, Data Visualization

ACHIEVEMENTS / CERTIFICATIONS

- Hackathon Winner:** Awarded 1st Place at Productathon (NIT Kurukshetra Startup Cell) for creating 'Job Ready AI', an LLM-powered application that automatically tailors resumes for job applications.↗
- Solved over 300+ Data Structures & Algorithms problems on LeetCode and GeeksforGeeks.
- Hackathon Leadership:** Served as the Team Leader in multiple hackathons, including Productathon, Smart India Hackathon, Google Developer Solution Challenge, Excalibur, Agentic AI Day.
- Certifications:** Machine Learning with Python (FreeCodeCamp), Generative AI with Large Language Models (Coursera), Supervised Machine Learning (Coursera), Microsoft Azure AI Fundamentals (AI-900), Smart India Hackathon, Google Developer Solution Challenge, Google Agentic AI Day.