Sujit Patel

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PROFESSIONAL SUMMARY

- 1+ year experience work in deep learning, machine learning algorithms, creating Machine learning models, visualizations and working on Linux.
- 2+ years experience in creating object-oriented applications with Python and C++ & Data structures and algorithms.
- Certified in ML & DL from DeepLearning.AI & Harvard and proficient in TensorFlow & Keras.
- Notable works include (but not limited to), RAG system and Controllable generation using GANs.
- Enhancing expertise in LLMs and advanced machine learning techniques.

PROJECTS

Controllable image generation with GAN (TensorFlow, Python, NumPy) **July 2024**

- Implemented a feedback-based noise update system with pretrained MobileNet classifier.
- Achieved 93% generation accuracy; significantly enhanced latent space, resulting in clear features.
- Reduced the average feature overlap by 40% compared to the baseline model.
- Utilized the celebA dataset with 40 classes and annotated examples.

Retrieval Augmented Generation System (Python, Pinecone DB, Google API, Django) **May 2024**

- Created context-query search system using google search API and vector database.
- Scored 89% accuracy, leading to a 45% reduction in false positives; Implemented vector similarity search, enhancing machine learning model with BERT fine-tuning on SQuAD.
- Increased user experience by 1.4x by reducing average result time to 0.4 sec for 2 048 tokens.
- Designed a responsive interface with Django for query search with download result option.

Explainable AI: Grad-CAM and scene detection (TensorFlow, Python, NumPy) **April 2024**

- Created a gradient visualization system for analysing feature weights in an image for classification.
- Trained a ResNet model for feature extraction on Microsoft dataset with 17034 original and 17034 augmented examples in 6 classes.
- Added a custom training loop with classification layers to extract gradient channels for visualization.
- Achieved 94% training accuracy and 92% validation accuracy with cross validation set.

SKILLS

Core skills: Machine learning, Deep learning, Neural Networks, LLM fine-tuning, Azure, MySQL, SQL, Linux
Programming languages: C++, Python, Object oriented programming, HTML, CSS
Frameworks/Libraries: TensorFlow, Keras, Django, Scikit-learn, NumPy, Pandas, Matplotlib, Seaborn
Soft skills: Strategic Thinking, Collaboration, Cognitive Flexibility, Communication

CERTIFICATIONS

Large Language Models (LLMs) Operations specialization (Duke University, In progress)
Generative Adversarial networks (GANs) specialization (DeepLearning.AI, In progress)
Python for Data Science and Machine Learning (Harvardx CS109x) (Harvard University, July 2024)
Machine Learning with Python (MITx 6.86x) (MIT, July 2024)
Deep Learning specialization & Advance TensorFlow (DeepLearning.AI, May 2024)

EDUCATION

Bachelor of Computer Applications (BCA) - Amity University, Madhya Pradesh 2022 – 2025
CGPA: 8.51 / 10

X, XII - ST. Joseph's School (ISC), Singrauli, Madhya Pradesh 2019 – 2021
Percentage: 83.3%