MANIK YADAV

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EDUCATION

Delhi Technological University	June 2027
B. Tech. Computer Science and Engineering	*CGPA: 9.15*
Central Board of Secondary Education (Class 12th)	May 2023
Computer Science, Mathematics, Physics, Chemistry, English, Physical Education	*Grade: 97.4 %*
Central Board of Secondary Education (Class 10th)	August 2021
English, Hindi, Mathematics, Science, Social Science, Sanskrit	*Grade: 97.8 %*

Courses :
- Summer School on AI from Machine Learning Research Lab, Delhi Technological University
- Machine Learning Specialisation from Stanford Online, DeepLearning.AI, Coursera
- Computer Vision- Build convolutional neural networks with TensorFlow and Keras from Kaggle

TECHNICAL SKILLS

Languages: C/C++, Python, Java, HTML, Tailwind CSS, JavaScript, TypeScript, MATLAB, Arduino, SQL, LaTeX
Tools: Git/GitHub, VS Code, Google Cloud Platform, AutoCAD
Frameworks: React, Node.js, Flask, FastAPI
Libraries: PyTorch, Detectron2, Tensorflow, Keras, pandas, NumPy, Matplotlib, nltk, Scikit-Learn, OpenCV, Tkinter

PROJECTS

Lung Segmentation | Github Link | *Python, PyTorch, Detectron2* — January 2025
- Developed a high-performing lung segmentation model using the VESSEL12 dataset and Detectron2, achieving segmentation accuracy of 81.98% and bounding box accuracy of 93.62% on the test set.
- Engineered preprocessing pipelines to extract 2D images from 3D .mhd files and converted masks into COCO format annotations for compatibility with Detectron2.
- Conducted controlled and well-documented experiments with over 13 model configurations, implementing advanced architectures such as Mask R-CNN and Cascaded Mask R-CNN with ResNet and ResNeXt backbones.

Int-O-View | Github Link | *Python, TypeScript, React, Redux Toolkit, Express, Flask, MongoDB, Git* — August 2024
- Collaborated on a team project for the SIH internal Round, standing out among 200+ teams.
- Engineered an AI-based interviewer application, integrating Groq and ChatGPT-4 for real-time interview simulations and evaluations, reducing interview time by 50%.
- Constructed a comprehensive scoring system and dashboard to deliver detailed candidate performance metrics across 4 key areas, ensuring a consistent and unbiased interview process.

Summer ML Projects | Github Link | *Python, PyTorch, Transformers* — June 2024
- Developed a collection of 7 machine learning projects during the Summer School on AI by MLR, DTU, demonstrating core concepts in ML and deep learning.
- Implemented a Generative Pre-trained Transformer 2 (GPT-2) from scratch for text generation and a Vision Transformer (ViT) for image classification.
- Built 3 different image captioning models implementing "Where to put the Image in an Image Caption Generator" paper using a combination of CNN and RNN/LSTM architectures and trained on Flickr 8k images.

ACHIEVEMENTS

NTSE Scholar: Recognized for outstanding performance in the NCERT's national-level scholarship examination, placing among the top 1000 scholars.
Reliance Foundation Undergraduate Scholarship: Selected as one of 5,000 nationwide for academic support and leadership development.
CBSE Certificate of Merit in Mathematics: Achieved 100 in Mathematics, ranking in the top 0.1 % in the 2023 All India Secondary School Examination.