Deep Gandhi

About Me +91 706-906-0350 dbg.deepgandhi@gmail.com Linkedin Github Kaggle

EDUCATION

Indian Institute of Information Technology Kottayam **Jan. 2022 – May 2025**
B.Tech. | *Computer Science and Engineering* *Kottayam, India*
Cumulative G.P.A.: 8.91

TECHNICAL SKILLS

Languages: Python, Java, C, C++, HTML/CSS, JavaScript, SQL
Developer Tools: VS Code, Google Colab, Jupyter
Technologies/Frameworks: NumPy, Pandas, Tensorflow, Keras, PyTorch, Transformers, OpenCV, PIL, Matplotlib and Seaborn, Scipy, Flask, Scikit-learn, Gradio

EXPERIENCE

FACTS-H Lab, IIIT Kottayam **Dec. 2024 – Present**
Research Intern *Kottayam, India*

- Built an eye disease classification pipeline using **ResNet**, **ViT**, and **InceptionV3**, integrating various fine-tuning techniques such as **gradual unfreezing** and **spatial transformer** modules to enhance spatial focus.
- Designed **interpretable ML pipelines** for healthcare applications using **Grad-CAM++**, **Concept Relevance Propagation**, and an **explainable AI dashboard** to enhance model transparency and clinician trust in AI predictions.

PROJECTS

Medical Image Captioning | *PyTorch, NumPy, Transformers* | Code **Aug. 2024 – May 2025**
Supervisor: Dr. Priyadharshini S

- Designed a scalable **medical image captioning** framework using **BLIP-2**, **ViT+GPT-2**, and **GIT**, with custom **two-stage fine-tuning** via **MeSH-term alignment**, **caption adaptation**, and **DINOv2**-based visual enhancement.
- Evaluated performance with **BLEU** and **ROUGE**, achieving strong scores for clinical accuracy and contextual relevance in captions.

Style Transfer using CycleGAN | *PyTorch, NumPy, Gradio* | Code **Dec. 2023 - Feb. 2024**

- Developed and implemented a **CycleGAN** model for image style transfer, enabling conversion between artistic styles such as Van Gogh's paintings and real-world photographs.
- Trained the model on a **VanGogh2photo** dataset of more than **800** images producing visually appealing style transferred images.

Deep Face Verification | *Python, Tensorflow, Keras, OpenCV, NumPy* | Code **May 2023 - July 2023**

- Developed a DeepCNN face verification system utilizing an **L1 distance** between **embedding spaces** for calculating similarity and performing verification.
- Achieved a recall rate of **99.1 percent** and a precision rate of **99.8 percent** on a custom dataset which contains anchor, positive, and negative images.

ACHIEVEMENTS

- Contributor on Kaggle.
- Achieved **287th rank out of 3,559 participants** in the **Child Mind Institute - Problematic Internet Use** competition on Kaggle.
- Secured **91st rank out of 2,684 participants** in the Kaggle competition, **Classification with an Academic Success Dataset**.

CERTIFICATIONS

- Machine Learning Specialization course by **DeepLearning.AI** & **Stanford University**.
  Skills Learned: Linear Regression, Logistic Regression, Classification Algorithms, K-Means Clustering, Decision Trees, Collaborative Filtering, Reinforcement Learning, Neural Networks.
- Programming for Everybody (Getting Started with Python) course by **University of Michigan**.
  Skills Learned: Basic Syntax and Semantics, Programming Fundamentals, OOPs, Data Structures and Algorithms, Data Science and Analytics.
- Deep Learning Specialization (*Audited*) course by **DeepLearning.AI** & **Stanford University**.
  Skills Learned: Artificial NN, Convolutional NN, RNN, LSTM, GRU, Transformers, Backpropagation, Hyperparameter Optimization, Siamese Network, GANs.