Akanksha Sharma

Roll No.: t22110
M.Tech
Communications and Signal Processing
Indian Institute Of Technology, Mandi

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GitHub Profile
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Education

•Indian Institute of Technology *2024*
M.Tech (Communication and Signal Processing) CGPA: 8.06

•Bhagwan Parshuram Institute of Technology *2021*
B.Tech (Electronics and Communication Engineering CGPA: 8.95

•St. Giri Senior Secondary School *2017*
12^{th} CBSE Percentage: 81.2%

•St. Giri Senior Secondary School *2015*
10^{th} CBSE CGPA: 9

Personal Projects

•Deep Learning for EEG Analysis *Aug'2023 - Present*
Used CNN, Transformers, Bi-LSTM

– Tools & technologies used: Tensorflow, NumPy, Matplotlib
– Classification of EEG signals into one of 40 different classes when EEG signals are recorded while looking at an image among 40 different classes of ImageNet.

•Auditory Attention Detection using low parametric deep learning approach *Dec'2022 - Feb'2023*
Used CNN, Transformers

– Tools & technologies used: Tensorflow, Matplotlib, NumPy, SkLearn
– Detection of left or right audio using EEG signals collected when two different audios are played simultaneously at left and right ear

•Segmentation for cracks *Sep'2023 - Nov'2023*
Used U-Net, DAM (Dual Attention Module - CBAM and Squeeze and Excitation)

– Tools & technologies used: Tensorflow, Matplotlib, NumPy
– Segmentation of cracks on pavement

•Seizure Detection *Feb'2023 - Apr'2023*
Used NP Detector

– Tools & technologies used: Tensorflow, Matplotlib, NumPy
– Pre-processed EEG signals to values of channels with respect to different reference point
– Detect EEG signals as seizure or non-seizure for epilepsy patients

Technical Skills and Interests

Languages: Python (Advanced), C, C++
Frameworks & Tools: Tensorflow, NumPy, Matplotlib, Pandas, Keras, Scikit-learn, OpenCV, Google Colab, Jupyter
Coursework: Deep Learning and its Application, Matrix Theory, Probability and Random Process, Pattern Recognition, Digital Image Processing, Applied Optimization, Computer Vision
Areas of Interest: Brain-Computer Interface, Computer Vision, Machine Learning, Deep Learning, Artificial Intelligence

Positions of Responsibility

•Teaching Assistance
Indian Institute of Technology (IIT) Mandi
- Statistics and Probability *Feb'2023 - May'2023*
- Data Science *Aug'2023 - Nov'2023*

Achievements

- **GATE 2022**
  AIR 1765 in Electronics and Communication
- **HTRA**
  Selected for Masters in Communication and Signal Processing