National Institute of Technology Rourkela

Departmental Seminar

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| Seminar Title | : A Novel Unified Approach to Deepfake Detection of Images |
| Speaker | : Shyamapada Mukherjee |
| Supervisor | : Sumanta Pyne, PIC Seminar, CSE |
| Venue | : New Conference Room (CS 323) |
| Date and Time | : 09 Jan 2025 (17:30) |
| Abstract | : The advancements in the field of AI is increasingly giving rise to various threats. One of the most prominent of them is the synthesis and misuse of Deep Fakes. To sustain trust in this digital age, detection and tagging of deepfakes is very necessary. In this paper, a novel architecture for Deepfake detection in images is presented. The architecture uses cross-attention between spatial and frequency domain features along with a blood detection module to classify an image as real or fake. This paper aims to develop a unified architecture and provide insights into each step. It is trained on two small datasets with 200 and 400 images respectively. On comparative analysis, our model was better than the other possibilities. Further, there was an increment in accuracy of 4.29% and 4.60% upon adding 200 images to the dataset. This shows that, if trained on a large dataset and hyper-parameters optimized, the performance will increase significantly. |