**Progress report of Week 1**

**Duration: 02/01/2024 to 08/01/2024**

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| **To be filled by Students** | |  |
| Project Title finalized, if Yes, give name, if NO, give reason | | Multispectral Land Cover Analysis and Change Detection for Assessing Environmental Dynamics |
| Synopsis submitted | | Yes |
| Literature review | | Yes |
| Technical & Economical Feasibility | | GPU required |
| Bill of Material | | NA |
| Design of components | | NA |
| Fabrication work (give %) | | NA |
| Experimental work (give %) | | 10% |
| Result and Analysis | | Understood how to proceed with model creation and the processing requirements of task. Read and understood how the data must be pre-processed for input and handling in the networks. Understood how Siamese networks can be employed for the purpose. |
| Report writing | | Created a rough draft for “Introduction” and “Methodology” sections of report. |
| Work done in this week:   * Explored viable options deep learning models that can replace traditional methods of change detection. * Curated the following.   + Recurrent-CNN   + Time series models like RNN & LSTM   + Siamese Network   + Other RNN/LSTM variants * Studied basics about Siamese Network and its architecture. * Explored how Siamese Network accepts and handles data. * Initialized the Graphics Processing Unit on local device with TensorFlow and PyTorch. * Studied the loss functions for Siamese network. | | |
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| * Close-up of a signature    Description automatically generatedSignature of Student: | | |
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| To be filled by Guide (strike off whichever is not applicable) | | |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  |   Performance of students is satisfactory/ Unsatisfactory | | |
| |  |  |  |  | | --- | --- | --- | --- | |  |  |  |  |   A warning to be issued to student(s) | | |
| Feedback given to students on current progress | | |  |
| Task assigned for next week | * Develop a script for preprocessing the data. * Build preliminary model structure | |
| Date Signature of Guide |  | |
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