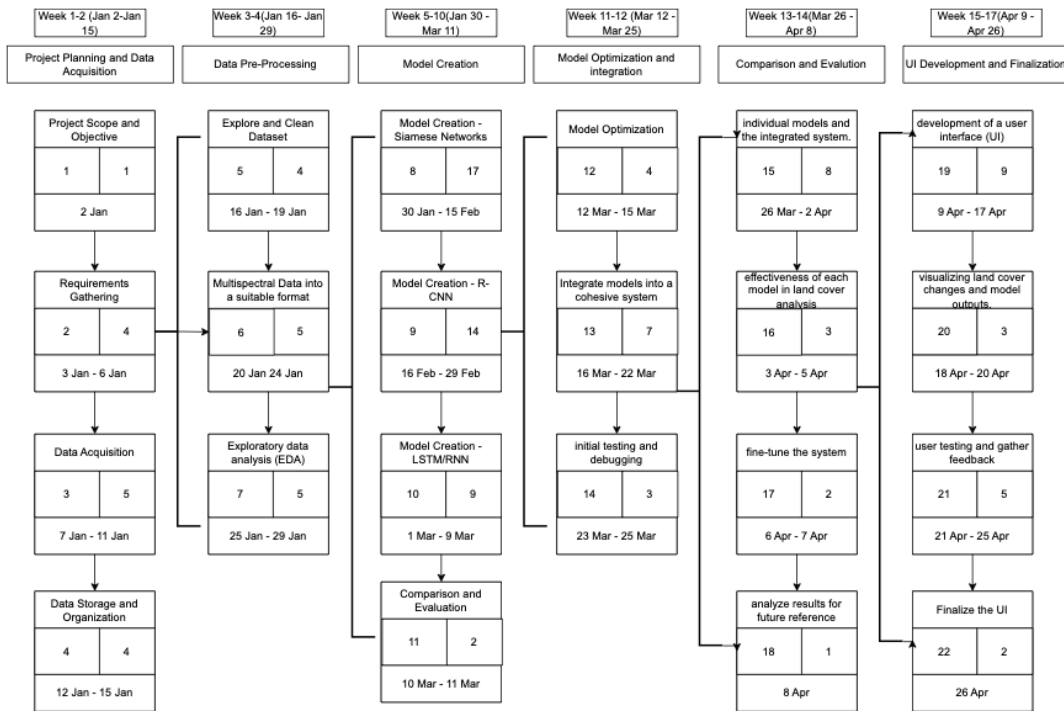# Progress report of Week 2

Duration: 09/01/2024 to 15/01/2024

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 %)	15%
Result and Analysis	Tried and tested initial models and observed shortcomings. Understood where the source of error is.
Report writing	Added new information to "Methodology" section of report

Work done in this week:

- Explored data preprocessing methods in detail.
- Found new data formatting techniques which suit the project better.
- Constructed initial Siamese model and tested on a small scale dataset.
- Understood the shortcomings of the model and improving upon them

PERT Chart

Week 1-2 (Jan 2-Jan 15)	Week 3-4(Jan 16- Jan 29)	Week 5-10(Jan 30 - Mar 11)	Week 11-12 (Mar 12 - Mar 25)	Week 13-14(Mar 26 - Apr 8)	Week 15-17(Apr 9 - Apr 26)
Project Planning and Data Acquisition	Data Pre-Processing	Model Creation	Model Optimization and integration	Comparison and Evalution	UI Development and Finalization

Project Scope and Objective — 1 | 1 — 2 Jan

Explore and Clean Dataset — 5 | 4 — 16 Jan - 19 Jan

Model Creation - Siamese Networks — 8 | 17 — 30 Jan - 15 Feb

Model Optimization — 12 | 4 — 12 Mar - 15 Mar

individual models and the integrated system. — 15 | 8 — 26 Mar - 2 Apr

development of a user interface (UI) — 19 | 9 — 9 Apr - 17 Apr

Requirements Gathering — 2 | 4 — 3 Jan - 6 Jan

Multispectral Data into a suitable format — 6 | 5 — 20 Jan 24 Jan

Model Creation - R-CNN — 9 | 14 — 16 Feb - 29 Feb

Integrate models into a cohesive system — 13 | 7 — 16 Mar - 22 Mar

effectiveness of each model in land cover analysis — 16 | 3 — 3 Apr - 5 Apr

visualizing land cover changes and model outputs. — 20 | 3 — 18 Apr - 20 Apr

Data Acquisition — 3 | 5 — 7 Jan - 11 Jan

Exploratory data analysis (EDA) — 7 | 5 — 25 Jan - 29 Jan

Model Creation - LSTM/RNN — 10 | 9 — 1 Mar - 9 Mar

initial testing and debugging — 14 | 3 — 23 Mar - 25 Mar

fine-tune the system — 17 | 2 — 6 Apr - 7 Apr

user testing and gather feedback — 21 | 5 — 21 Apr - 25 Apr

Data Storage and Organization — 4 | 4 — 12 Jan - 15 Jan

Comparison and Evaluation — 11 | 2 — 10 Mar - 11 Mar

analyze results for future reference — 18 | 1 — 8 Apr

Finalize the UI — 22 | 2 — 26 Apr

Signature of Student:

Nayan R.das

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	• Improve upon the shortcomings and try running the model again • Check if changing data preprocessing pipeline affects the results • Try other models and compare the observations			

Date   Signature of Guide