

project meeting minutes

Date: 21-01-2026

Location: Stokes Building, DCU.

Attendees: Dhanush Kumar Ramesh (Student), Dr. Marissa Condon(Supervisor)

1. Agenda

- Review the initial project proposal (surrogate model for signal integrity.)
- Feedback on proposed approach for the surrogate model.
- Establishment of the project repository and initial tasks.

2 Key Discussion Points

Topic A: Technical Approach

- Study the scientific approach of Complex Valued Neural Network detailed in paper "Surrogate Modeling With Complex-Valued Neural Nets for Signal Integrity Applications" and study the math behind it.
- Need to investigate if any open-source datasets available that can be used for training and also methods to generate datasets.
- Explore if the forward model could be implemented in python and also if the simulations can be done in python.

Topic B: Future Directions

- Defining appropriate objective functions for the inverse model.
- Inverse model should also be implemented in python.
- Exploration of novel aspects that could be added to the project.

Topic C: Repository Setup

- Create a Repository in GitHub to track and document the progress.

3. Decisions Made

- The Proposal to use forward and inverse model is accepted considering the proper approach is studied from the paper and modified to our project need.
- Implementation in python to be explored and results to be discussed in next meeting. Priority to find open-source datasets. If not, simulate the data (explore if can be simulated in python.)

4. Action Items

Task	Deadline	Status
1. Set up GitHub Repository for minutes and documentation	Immediate	Completed
2. Study the paper: <i>"Surrogate modeling with complex-valued neural nets"</i>	Week 2	To Do
3. Dataset Search: Look for open-source datasets for the forward model	Week 2	To Do

Task	Deadline	Status
4. Data Generation Alternatives: Investigate methods to generate data	Week 2	To Do
5. Python Feasibility: Explore implementing the Forward Model in Python	Week 3	To Do
6. Inverse Model Exploration: Research objective functions (Long term)	Ongoing	To Do
7. Novelty: Brainstorm specific novel aspects to add to the project	Ongoing	To Do

Next Meeting

Date: 04-02-2026 (To be confirmed)