TPT3101 Final Year Project (FYP1) Meeting Log
Trimester 1, 2022/23 (Trimester ID:2210)

Meeting Date: 28/9/2022	**Meeting No.:** 1
Meeting Mode: Physical	
Project ID: 2078	**Project Type:** Research-based
Project Title : Satellite Image Segmentation using Vision Transformer	
Student ID : 1201302740	**Student Name:** Muhammad Haziq Faiz Bin Mohd Ripin
Student Programme and Specialisation: B.C.S (Hons) Data Science	
Supervisor Name: Dr. Loh Yuen Peng	**Co-Supervisor Name:** (if applicable)
Collaborating Company: (if applicable)	**Company Supervisor Name:** (if applicable)

1. WORK DONE

[Please write the details of the work done, after the last meeting]

Tasks: Problem Formulation and Project Planning / Background Study or Literature Review / Requirement Analysis or Theoretical Framework / Design or Research Methodology / Prototype Development or Proof of Concept / Draft Report Completion
(Please strike out the tasks, which are not applicable for the work done, after the last meeting)

Details (in point form):

- Read the LoveDA paper.
- Read the Self-supervised Vision Transformers for Land-cover Segmentation and Classification paper.
- Briefed about ensemble model and Feature Fusion during the meeting.
- Briefed about Instance Segmentation and Semantic Segmentation.
- Installed PyTorch with ROCm support that works with AMD GPU. Found out it has a lot of bugs so decided to stick with google colab.
- Watched a few lecture videos on Transformer and Neural Network.
- Research the differences between spatial and spectral images.
- Learned the basics of linear algebra and statistics so that I can get a clearer understanding of the paper.
- Discussed the Introduction and Problem Statement parts of the project.

2. WORK TO BE DONE

[Please write the details of the work to be done, before the next meeting]

Tasks: Problem Formulation and Project Planning / Background Study or Literature Review / Requirement Analysis or Theoretical Framework / Design or Research Methodology / Prototype Development or Proof of Concept/ Draft Report Completion
(Please strike out the tasks, which are not applicable for the work to be done, before the next meeting)

Details (in point form):

- Write the Introduction and Problem Statement.
- Find and read more research papers.
- Try to train a model written in PyTorch. Preferably a Transformer based one.
- Research Swin Transformer. try to train a model with it if possible.
- Continue studying about deep learning and improving my math skills.
- Further reading about Ensemble models.

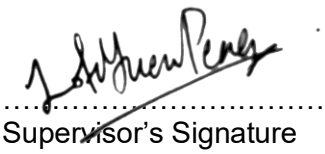
3. PROBLEMS ENCOUNTERED AND SOLUTIONS

[Please write the details of the problems encountered, after the last meeting and provide the solutions / plan for the solutions]

- Didn't have the baseline knowledge about Deep Learning.
  Solution: Refer to lectures by Hung-yi Lee and Yann LeCun. The latter one actually provided notebooks so I can understand it better.
- Didn’t have the prerequisite math knowledge to understand the research papers.
  Solution: Borrowed two books from the library. Gilbert Strang’s Linear Algebra and Bishop’s Pattern Recognition. These are the ones recommended from my research on the Internet. Currently at Chapter 3 of Linear Algebra book. Haven’t started on the Pattern Recognition one.

4. COMMENTS (Supervisor / Co-Supervisor / Company Supervisor)

Good that you have looked further into other sources to help in understanding the concepts, coding, and related research papers.
Do be mindful of the time taken to study the concepts as it doesn't take too much away from the main research part.



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Supervisor's Signature Student's Signature

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Co-Supervisor's Signature Company Supervisor's Signature
(if applicable) **(if applicable)**

IMPORTANT NOTES TO STUDENTS:

1. Items 1 – 3 are to be completed by the students prior to the meeting. Item 4 is to be completed by the supervisor / co-supervisor / company supervisor.

2. Student has to upload the soft copies of the meeting logs in Google Classroom and also attach them along with interim (FYP1) report.
   Minimum requirement is SIX Meeting Logs (Period: Week 3 to Week 13). Students can have fortnightly meetings with the supervisor.

3. Log sheets provide the basis for evaluating the General Effort (Project Management, Attitude, and Technical Competency) of the student, by the supervisor and also for checking the attendance requirement of the student, by the FYP Committee.

   This also provide the student with feedback from the supervisor / co-supervisor / company supervisor on the tasks done and provide the plan for the upcoming tasks. This can provide the motivation for the student to give consistent and efficient effort throughout the period of FYP.

4. Student who fails to meet the minimum requirement (six nos.) of log sheets will not be allowed to submit FYP report.