In this course (Neuroinformatics), you will work towards learning and growing in areas and skills that you are having difficulty with, and that will benefit you in your time in IIIT Hyderabad and beyond. Below you will develop your own personal goals. This is meant to be a living document: you will self-assess relative to your goals throughout the semester, track your progress on your goals, check on them periodically with us, and update them as needed. As you write your personal goals, please take into account the 5 course components: class participation, problem sets/reading notes, group work, class presentations, final paper. Think of which of these you would like to invest in most, and set challenging but realistic goals for improvement and growth in those.

Attached is a table for you to create your SMART Goals for this semester. The goals you set should be academic – related to skills you want to improve using this course. Please ensure at least one goal applicable to each component of the course that you would like to apply yourself to. Feel free to add a personal wellness goal for maintaining physical and/or mental health.

Be sure that the goals you are writing are complete SMART goals. A SMART goal is:

● **Specific:** Your goal should be a statement that focuses on just one specific thing that you can measure and track throughout the semester. For example, “I will do well in PSY338” is not specific. How will that be judged? Instead, choose a more specific goal like, “I will complete my weekly reading by Friday so I have time to think about the paper before completing the reading prompt.”

● **Measurable:** Unless you can chart your progress, your goal is not measurable. Think of it like a science experiment. Whatever evidence you are using to show that you are reaching your goals must be observable (in particular, we will want to see evidence that you have achieved your goal! Though note that we don't have to see it with our own eyes -- we believe you and follow the honor code). “I will pay more attention in class” is an example of a statement that is hard to measure. “I will close all social media apps and make sure to not turn them on during class” is much more measurable.

● **Attainable:** Try for a goal that is within your range, but only if you really push yourself. Don’t set goals that you have already achieved, or ones that are not realistic. One way to think of goals is to have them revolve around a behavior (reviewing material from last week before each class, practicing your class presentation at least 3 times in advance, following up on at least 2 references (even just to skim) to round out your class presentation, speaking up at least once per precept, etc.).

● **Relevant:** We can all set goals for trivial things in life, but the goals you set here must be relevant to you as a student in this class and actually pertain to you growing academically this semester.

● **Timed:** Goals should have clear steps and a clear timeline to a) check in on those steps in order to evaluate how you’ve done and alter your plans, and b) reach the goal.

Feel free to set only 2-3 high level goals and then break them into steps that are more immediate and measurable, or to assign more goals, each of them measurable. This table is just a skeleton -- use it in a way that is helpful to you. Below it you will find some questions about your goals, as well as space to track your progress every week (note that what you write here will be visible to us throughout the semester).

Specific goal	**(opt) Steps to reach goal (break into 2-3 steps)**	**(opt) Timeline for each step**	**(opt) Why is this important to me?**
GOAL 0: I want to complete the chapter-readings in time and ask doubts (if any) before the start of the next class.	- I will make sure to check the Excel sheet provided for us for any uploaded videos/ readings prior to the class. -I will try to complete the videos/readings and write notes or highlight the points in the reference book given. -I will compile all my doubts and submit the feedback post to moodle or ask the TA/Prof directly if not cleared.	- Check the sheet 1 or 2 days prior to the class to complete the necessary readings and after the class to complete videos/ readings to do after the class. - I will submit my doubts at least 12 hours before the class	- This will keep me prepared for every week and prevent the last minute rush and help me to follow the lecture nicely in the class.
GOAL 1: I might take aid of generative LLM / websites / … while understanding the chapter BUT I will be completing the in-chapter problems and assignments without relying on such suites.	- I will try to think for some time before approaching for any help. - Then I will take the help of google to try to understand it and attempt to solve it on my own. - If confusion is still there I will use AI to understand it more or check the correctness of my solution.	- Start on the same day the assignment is released. (Try to complete at least 1-2 problems) - Based on the difficulty of the question , I will try for 15min-45min of my personal attempt. - Only after not understanding/for checking the correctness of my solution.I will use AI (do not overrely on it for sure!)	- This gives work for my brain to think and analyse it before jumping into the solution. - It helps in building my problem solving abilities and makes me think and solve even if the small change of a similar problem is given later.

GOAL 2: I want to be comfortable reading a paper published in any standard journal in the field — restricted to those that use EEG/iEEG data — and can understand the methods section, at least those parts which overlap with what we learn in class.	- After selecting the project, I will make sure to read some research papers based on it. - I will try to understand the techniques they used and I will map to the ones that I have already learnt in class. - Research on / Highlight the terms or any interesting methods that are not discussed in the class.	- Will start after getting the project dataset and clarity on what we are actually going to do like EEG,iEEG or MEG etc..	- Helps in final project design and we can know new methods and the improvements of the existing methods one used for their paper. - Get to improve some academic reading skills.
GOAL 3: I can form a coherent hypothesis, find an appropriate dataset, and design a technical pipeline to test the hypothesis. **Additionally, I can code up the pipeline from scratch and without overtly depending on custom libraries.**	- Check for the syllabus doc for the given example dataset. - Research on it , discuss it with my teammate and TA. - By doing assignments and by reading published papers, we will get an idea of how to approach the hypothesis and dataset and do particular analysis and get comfortable in the coding part too.	- By the end of week 2, Me and my teammate will collaborate and discuss the hypothesis and about the dataset.	- Starting early helps us to think and discuss with TA/prof and make necessary changes to our approach or way of thinking if there is any mistake. - Helps us improve our research and coding skills.
GOAL 4: I want to be able to critique and catch methodological flaws in existing papers and/or presentations by my peers.	- This needs lots of ability and time to figure out the methodological flaws. - I will try to understand the lecture slides , Reference book, video lectures clearly and research papers as thoroughly as I can , so that I will get an understanding about all of the techniques not only mine(that am going to select and do for my project) - I will attend all the project presentations attentively by my peers.	- I could not mention the exact time line for this , but by the end of the course I will try to make sure this will happen from my side.	- This will make me think analytically and helps me understand the different approaches done by my peers - This will also improve my understanding of experimental design.

(opt) Wellness goal: I understand that productivity demands a decent chunk of sleep and hence, won't be submitting course assignments at 3 AM!			

How my goals relate to the following course components:

1) Completing assigned readings and submitting questions and feedback on the readings and assigned videos >= 12 hrs prior to class. Highlights of the textbook PDF with notes will also help track progress. Your textbook PDF should be a live document that is shared with the TA and faculty instructor - Goal 0, Goal 1, WG
2) Take-home problem sets (teams of 2 – you are encouraged to collaborate in pairs):
3) Quiz 1, Quiz 2, and Mini-Quizzes - Goal 2
4) Class participation (attendance and asking Qs,starting discussion threads on Moodle, etc) – Goal 0
5) Final project (teams of 2) - 3 presentations : Goal 3, Goal 2
6) Final project (teams of 2) - final team report and peer reviewing: Goal 3, Goal 4

Goal tracking:

Feel free to use this to reflect every week on your progress, list evidence for progress (link to a shared Google Drive live document for example where you're reading the textbook and making notes in the PDF, link to your GitHub, etc to show how exactly you're meeting your goals above) , and document changes in goals.

Github- https://github.com/Harshitha197/Neuroinformatics

what I did in **August month:**

- Week 1 : (Aug 7)
    - Understanding the course structure and wrote notes on the instructions and grading scheme to get clarity.
    - Read lecture slides and wrote notes (handwritten).
    - I watched 2 videos (linked in the spreadsheet) and wrote notes (docs).
    - Read chapter 1,2,3,4 and posted my doubts on moodle – got cleared in class.
    - Did Inclass assignment on matlab (some introductory) - submitted on moodle.
    - Creating a github repo for neuroinformatics.

- Week 2: (Aug 18)
    - Analyzed and understood about “SMART” goals and submitted the goal tracker version 1 to the moodle.
    - Getting more familiar with functions and doing some exercises and understood the code given for us in matlab.
    - Read Lectures and Textbook chapter -2,3 (again, read in rush before),ch-5and wrote notes after watching the videos.(docs)
    - Pushed my work into github.
    - Started searching for the project in different websites, discussed various datasets and the hypothesis.

- Week 3 :(Aug 25)
    - Vigorous research on the project- selected one but prof did not approve.
    - Finally selected an EEG motor imagery and motor dataset and submitted the project proposal on moodle.
    - Understanding the preprocessing steps explained by TA.
    - Did hands-on practice in class.
    - Reading ch-7,8,9 and writing notes (part of quiz preparation)
    - Preparation for quiz.
    - Wrote a quiz and submitted it on moodle.

Note : Everything is up to date on my github along with evidence.

What I did in **September Month:**

- Week 1 : (sep 2 - sep 9)
    - Discussion on quiz 1 answers, graded myself (14/20) and gave myself a feedback and submitted it on moodle
    - Took help from sir - regarding preprocessing steps and getting an understanding about data.
    - Started doing preprocessing steps for our data
- Week 2 : (sep 10 - sep 17)
    - This week is more of matlab sessions.
    - Getting familiar with chapter 10
    - Understanding basics of dot products and convolution using simple signals (impulse/boxcar and a kernel), showing both manual implementations and MATLAB’s built-in functions
    - Proof of convolution theorem.
    - Refining of preprocessing steps
- Week 3 : (sep 18 - sep 25)
    - Again did chapter 11
    - and applied Morlet wavelets for time–frequency analysis of EEG data, replicating figures from the textbook

    - Did chapter 13 matlab questions from the textbook
    - Did not do much this week due to midsems and some other deadlines.
- Week 4 : (sep 26 - sep 30)
    - Meeting with TA and showed our progress regarding the project and took some suggestions and improvisations we can do to our project.
    - Discussion with my teammate regarding the next steps of the project.
    - Getting more clarity and ideas on the research questions that align with our data after talking to TA.
    - Started ppt and report.

What I did in **October Month:**

- Week 1 : (Oct2 - Oct9)
    - Got to know about the projects our classmates are working with and wrote a docx on the 2 presentations that happened in the class – what they did, what prof, ta and fellow classmates suggested.
    - Started making ppt for our mid project presentation and while researching about data - I skimmed through 2-3 papers and understood how the other papers used the data we are currently using.
    - Listened to the remaining presentations that happened before us and presented our work too on the same day - felt okish(need to improve more) - got some feedback from sir.

- Week 2: (Oct 10 - Oct 17)
    - Discussion with my teammate regarding the project - about the future work.
    - The TA explained about Morlet wavelet transforms, baseline normalization, permutation testing, and z-score mapping and got some hands-on experience regarding it.
    - Submitted the assignment on the same day after the class- provided MATLAB script to compute baseline-normalized TFR, generate z-maps, and threshold significant regions.

- Week 3 : (Oct18 - Oct25)
    - I am not in the campus - diwali vacation and at the same time class got cancelled too..
    - Lots of deadlines - couldn't do better this week except for preparing the quiz
    - Watched all the videos sir has kept in the mail.
    - Since there is a total syllabus - skimmed through all the lectures and read my quiz-1 paper to remember my mistakes and not repeat it again if the similar

question arrives in the exam.
    - Read the last lecture in detail and watched more videos form the channel mike x cohen.

- Week 4 : (Oct 26 - Oct 31)
    - Wrote quiz2 - performed badly.
    - Got some feedback from sir - planned to read & understand everything in detail clearly again - ch(12-16) – proof of evidence (notes and applying them in project) will update that work in the next month's reflections.
    - Discussed quiz 2 key and wrote notes for the class regarding ST FFT, Multitapers and its purpose and benefits - when to use and when we should not to use etc..
    - Ch15, 16 code - tried understanding it.

Goals for November Month:

1) Completing the assigned readings before the class - planning to give time at least 1-2 hrs a day - helps me understand the concepts and can clear doubts (if any) after the class. (evidence : writing notes / highlighting in TB - will update on github)
2) Submitting the assignments on time - Try to do according to the deadlines - helps me gain some practical understanding on the concept so that we won't forget the concept again.
3) Working on the goals I set for myself after quiz 2 - read the chapters - get to know the areas I lack proper understanding - watch relevant videos on it
4) Continuing the project from where we stopped - sit and discuss again with my teammate - about final deliverables and divide the work accordingly - make ppt and report - get feedback from TA before our presentation date so that we can improvise more.
5) Read research papers properly - try to apply a method if it is interesting - if time permits or just stay clear with the concepts that are discussed in the class and apply them.

What I did in **November Month:**

November2 - November23:

In these 20 days of November I gave as much time as possible to achieve my goals I have kept for myself. I revisited Chapter 12 Morlet wavelets and wavelet convolution again because I felt in that area I did not perform well in the quiz. I wrote notes for it and uploaded to My_notes section of my Github and then I submitted all the inclass assignments given to us and the most challenging part is to restart the project again from where we left, it took a lot of time for planning and how to start and what to start again but soon it turned out well only, we did our ppt nicely and as our presentation is scheduled earlier we could not complete some sections we are

supposed to finish, then again we sat and started with project again and find results for some sections across subjects and then some statistical analysis on them and permutation test to actually see the significance between the conditions as they decrease type I error. I did not have much time to go through the research papers thoroughly and I am satisfied with the results we got because I enjoyed the process ,even though it initially little depressing later it was fun working on it, my teammate and I came up with different ideas and implemented whatever the concepts we have learnt in the class nicely.

Regarding the report part it was quite difficult we started the initial part very early and tried to find out the resources and re-reading everything twice or more times and giving it to AI to enhance our sentence formation, but the later part of the report we honestly relied on AI more as it is very hectic with endsem exams, project presentations, vivas, assignment evaluations and placement exams. But we make sure whatever we wrote is reliable and accurate with comparison to our results and then we again rearranged the code in a better way and added comments so that even if we want it later we can easily understand what each piece of code is doing and then reverified our logic in the process of checking all the files and finally we pushed all our work in the github with all our codes in Codes folder and results in Results folder and our final report in the new repository that we created separately only for this project and reaching to the final part that is peer reviewing – I am still doing it now (tomorrow is the deadline).

I don't know whether I reached up to par but writing everything here is making me acknowledge my work I had done and the genuine efforts I kept for this course, despite having ‘x’ number of reasons. I think I deserve an A- but I want an A :)