BMED4783/ ECE4783 (Spring 2020, Prof. May D Wang) Undergrad Midterm Rubric 40+10 points total

Team / Project: _____

Members: _____

Scoring Scale: **Excellent:** 5 Points **Good:** 4 Points **Fair:** 3 Points **Weak:** 2 Point **Poor:** 1 Point

PART I. PROBLEM STATEMENT	Score	Comments
• Provide a Table to summarize the methods you learned from literature/book, and rationale for Module-1 (i.e. answer 5W and 1 H) on Medical Image Pre-processing needed for clinical decision support. • Provide a Table to summarize the methods you learned from literature/book, and rationale for Module-2 (i.e. answer 5W and 1 H) on Medical Image Feature Extraction and Dimension Reduction for clinical decision support.		
PART II. System Design Diagram and Method Details	**Score**	**Comments**
• Provide a system flow diagram for both Module-1 and Module-2 (to list WHAT are all methods chosen, and explain WHY). • Explicitly write formula of methods chosen with each variable explained, and provide MATLAB function call to show your understanding. • Clearly list strength and weakness of the methods you implemented learned from the literature for each method or article.		
PART III. Selected Methods Explanation	**Score**	**Comments**
• Show Results of Module-1 • Discuss Insight Gained, and Problems Encountered		
• Show Results of Module-2 • Discuss Insight Gained, and Problems Encountered		
PART IV. Project Management Plan	**Score**	**Comments**
• Timeline and Team Member Work Distribution		
PART V. BONUS – Module-3 Effort	**Score**	**Comments**
• Any Preliminary Results for Module-3		

Total score: _____ points (Full credits are 40 points)

Course grade %: (Total score /5) x 100% = _____ % (Full credits are 8%)

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15-Minute Presentation Guide: The primary purpose of the midterm check-up for the undergraduate students' guided biomedical image analysis project is to see how much you have made progresses in accomplishing three Modules and to provide personalized feedback to address any issues your team may have. Similar to a Project Based Learning (PBL) class, this project encourages you to have active learning-by-doing. The more effort you put in the project, the more you will get out from the feedback session! As always, the teaching team is available if you have any questions about any of the project deliverable details.

Suggestions for Slide Preparation: (11-17 Slides, and 2-Bonus) and 10-Page Summary (Double-Page, 11-Font to capture the details of your learning notes, which can be partially reused in final project report.)

1) On the cover slide, list the title, and provide team member names, **team number, and photos (1 Slide)**
2) Restate clinical problem statement as provided in initial Guided Project description. Focus on summarizing technical progresses you have made with respect Module-1 (*Image Processing*), Module-2 (*Image Feature Extraction*), and Module-3 (*Image Classification for Clinical Decision Making*). (Please using bullet points to be concise and focused) **(1-2 Slide(s))**
3) Provide summary tables of your literature critique for the Module-1: medical image pre-processing tasks (e.g., color normalization, scale normalization, and data augmentation etc.), Module-2: feature extractions (e.g. color features, texture features, and morphological features etc.) and possible dimension reduction tasks. On average, please have each member provide one table with average **at least three items.**
   A table is the best way to see all three papers in one view.
   For each literature you read, please always capture the key **5W1H** and **strength/weakness** in bullet-point format with 1 or 2 figures summarizing the following:
   a. Who published it?
   b. When was it published?
   c. Which peer-review journal it is published?
   d. What are the strengths/limitations of each method?
   e. Why the method is chosen?
   f. How is the method doing? (i.e. results and comments)

   In presentation PPT, ONLY provide **2-3 Slides** to summarize. On report, you can list all of them.

4) Please draw a flow chart figure, and then provide formula for the methods you chose to do your Module-1 and Module-2. **(1-2 Slides).**
5) Please use figures with bullet points, and label/explain your figures to show pre-processing results from Module-1 **(2-3 Slides)**
6) Please use figures with bullet points, and label/explain your figures to show feature extraction and dimensionality reduction in Module-2 **(2-3 Slides)**
7) Please discuss the project implementation timeline, and each member's contribution **(1 Slide)**
8) **Bonus Point: if any team performed Module-3 task, those are considered additional effort that will receive bonus point (2 Slides).**
9) Key references, including all literature reviewed in the presentation as well as any additional applicable references **(1-2 slide(s))**