**Project Proposal Guide**

**I. Requirement for project draft approval**

You are **required** to have your project approved **after** submitting the proposal.

**II. Proposal draft document**

You are required to submit an ***IEEE paper draft*** with the following **sections**. Failure to provide them separately will result in losing points. It should be submitted in PDF format.

* **Title:** Your title should include the paper type: **review** or **original method** or **tutorial**. For example, your title needs to be: *Original Method: A Web-based Video Image Analysis Method-name.*
* **Abstract (1 paragraph):** Write a short abstract of what you would like to do in your project. I advice that you write the abstract ***after*** you complete the remaining parts of the assignment.
* **Motivation (1 paragraph):** Explain why you have chosen the topic. You will need to make connections to the modules discussed in class. ***Make sure to avoid overly relying on material that has already been covered. Please look at future material.***
* **Expected contribution (1 paragraph):** Explain what your original contribution will be in the proposed research. Are you implementing all of the code? Can you provide the source code for everything that you have implemented with clear indication on which parts of the code was done by others?
* **Expected contribution against competitive methods (table):** Provide a draft table that should include prior methods that you will compare against. Specifically indicate which ***new*** feature or approach you will provide over prior or existing methods. You may want to finish the writing of this section after you complete the other pieces since it involves the use of validation metrics (specified below).
* **Draft flowchart or pseudo-code (one or more diagrams):** Please provide a draft ­­­flowchart for the image and video processing blocks that will be used in your project. You do not need to understand the pieces right now. **You are expected to provide source code at the end. This is for assessment purposes only.** 
  + **If using Neural Net(s), you may need to make sure that you are meeting the requirements for hyperparameter tuning. Explain carefully how you are doing this.**
* **Code (1 paragraph):** Explain how you will get or develop the code for your project. Give the language that you are using and websites that you will be using.
* **Dataset requirements (1-3 pages):** Explain how you are going to collect your data. Where will the images or videos come from? Do you already have them?
  + **Make sure that your dataset requirements are met as outlined in the document title Project Requirements**
* **Data training and independent testing method (max=1 paragraph):** You will need to optimize your method on a training set while reporting your results on an independent data set (e.g., leave-one-out, cross-validation).
* **Method(s) validation metrics:** This is covered in the homeworks. Please enter your best guess if you are unsure and we can discuss later.
* **Bibliography (1 paragraph justification):** Select relevant IEEE Transactions or high-impact IEEE Conferences or other high impact publications **with at-least one major reference paper published in the** ***last 3 years*** (see below) that are relevant to your proposal. If you are not using IEEE Transactions or CVPR, you need to provide an impact factor or the citations of the paper or a brief statement explaining how the references were chosen. Similarly, you will need to provide justification if you are only using papers that are older than 3 years old.
* **Links or PDF documents for the bibliography:** I want to see the papers or links to the papers that you will be using. This will allow me to review them with you.

**Project proposal assessment**

The goal of this assignment is to prepare you for a successful project. This first assignment requires drafts of your material that will be reviewed in face-to-face meetings. The assignment will be graded based on the following simplified metric for ***each project component*** listed below:

* **Approved:** Substantial effort has been demonstrated in preparing the material.
* **Needs improvement:** Some effort has been demonstrated but significant material is lacking.
* **Not approved:** Very little effort has been demonstrated.

In addition to the above, your proposal draft will be graded based on:

* **Flow:** There needs to be a flow among the different parts of the proposal project. They should not contradict each other.
* **Connections:** I need to see the connections between the different portions of your paper. You should not ignore how the pieces connect to each other.