**How to Write a Project Proposal**

Submit a two-page summary (maximum) for the project you like to do.

Include the following in your summary under clear **headings or subtitles**. For CISC 499 it is expected that you have some software implementation for your project.

1) Identify what project option you like to do - a) Research-Thesis (includes implementation), b) Research-Report (Literature study mainly)

2) What is the topic that you want to work on?

3) What is the motivation - why it is an important or interesting topic, what are the practical applications, can you identify any short-comings in the current approaches used for this area of work, is there any novel idea that you may have and would like to explore. For thesis option, specify what data you like to use to test and validate your application.

4) Problem Description - For **research thesis option**, define the problem more, what research is needed, what implementation you may have to do, what are your expected results and how would you validate the results (does not have to be accurate but I need to know that it has been thought about and what are the expectations as outcome of the project - see the thesis option posted on Moodle). Some people like the rewards of implementing stuff or getting practical results out of their applications than doing elaborated research study.  A good experimental result can be published in a good conference in the area and also increases your expertise on practical applications which is good for jobs.

For **research report** option, identify the area of study, give a few references of the research work (conference or journal publications mainly, you can include one or two online white papers but research publications must be cited). If you want to do a depth or proposal, then it is necessary that you have some idea about the general topic so that you can narrow it down to more specific techniques or approaches or problems. Therefore, for depth and proposal options, give a short one paragraph summary about your knowledge or study of the larger area (it can be a very short summary of the survey paper that you have read on the general area) and identify the specific problem or technique that you want to focus on.

If you do not have any knowledge but only interest to know more about certain research **breadth** is a good option but there will be little chance of actually publishing your work on a research publication venue. If you go for a more focused option such as **depth** or **proposal**, the probability of publishing your study increases and can lead to a good start towards your graduate study if you are interested in pursuing to do so at a later point.

Therefore, please take some time and decide carefully what option you like to go for.

5) Timeline for the project - This is a very important part of your summary. You have to give a general timeline for your research study or project implementation. For thesis option, this should include, based on 1, 2, and 3, how much time you want to allocate for research, when you like to start your hands on implementation considering that you may have to modify your codes based on preliminary results of your implementation, when do you plan to start getting results and validating your work, when will you start writing your report and when do you intend to submit the final report and results. This should specify dates in the winter term.

For research report option, you can specify how many papers you like to have been read by what time, when do you plan to start writing the report (typically this should be starting from February), what will be the different sections/outline in your report, when do you want to complete the initial categorization of the works that you studied (it may change based on further study of papers but an initial draft of categorization and a skeleton report should be done sometime around the mid-February to give you enough time to extend/modify/fine-tune the report), and when do you plan to submit the final report.

For both options, you will have to do a poster presentation sometime in March before which you should have enough research and implementation done so that you can show your research findings (categorization) or your experimental data on your poster. So, plan accordingly.

6) References - A short list of references of research and online publications on the area that you selected.