HSN-619 | 2024-25 Autumn Session | PROJECT ASSIGNMENT

Instructions

The goal of the project is to gain hands-on experience in building a state-of -the-art research report in network science and applications, either theoretical or empirical.

Core Task:

After choosing a project topic*, each student should engage in at least four (related) analyses.

These analyses will contribute to the Results section of the final report.

Analyses may be replicated from papers or can be fresh ideas. Novelty will be rewarded!

Organizing Files:

All work (data, code, report, etc.) must be organized in a GitHub repository.

See Deliverables section under Evaluation Rubrics for the repository structure to be followed.

Template:

Presentations can be prepared using custom template by each student.

For preparing the report, the LaTeX template provided must be followed.

Sample Report & Writeup:

https://www.sciencedirect.com/science/article/pii/S2405896321003207

https://journals.aps.org/pre/abstract/10.1103/PhysRevE.80.020901

Submission Deadline:

All deliverables should be submitted on MS Teams by 09 November, 2024.

See Deliverables section under Evaluation Rubrics for all details.

* It is suggested to start thinking about topic from the paper allocation for presentation. (This is not necessary though.) Initial task up to MTE can be to replicate the main results on your computer. Discussion/finalization of topic and tasks to be done can always be done before & after class hours.

Evaluation Rubrics

Slides [10%]	
	Clearly motivates and defines the problem. [20%] Background on the techniques implemented in the paper. [20%] Compelling representation of the main results via tables and figures. [40%] Finish presentation in time. [20%]
Report [70%]	
	Section-wise 1. Introduction [15%] Clearly motivates and defines the problem in abstract and introduction. Novelty with respect to related literature (at least 10 references). 2. Data & Measures [10%] Clear descriptive statistics of data, and clear definitions of measures. 3. Results [40%] Well-executed analysis (mathematical/statistical). Clear explanation of methods used for each result. 4. Conclusion [10%] Discussion of research implications, limitations/ drawbacks, future work. *Overall* Writing/Description of each section. [05%] Quality of figures or diagrams. [10%] Zero spelling/grammatical errors, Zero plagiarism. [05%] Remains within the page limit of 10 pages. [05%]
Deliverables [20%]	

	On-time Submission of Final Output [50%]
	A single zip file containing the (1) final report, (2) final slides.
	The zip file has to be uploaded on MS Teams within the deadline *by each student*.
	
	Folder/File Structure for GitHub Repository [50%]
	-- Readme & License *File*
	-- Data *Folder*
	  -- Readme *File*
	  -- Data (*File* or *Folder*) or Link to Data (*File*)
	-- Analysis *Folder*
	  -- Readme *File*
	  -- Code/s (.ipynb, .R, etc.) organized in *Files*/Folders
	  -- Results *Folder:* contains figures & tables from various analyses
	-- Report *Folder*
	  -- Figures *Folder*
	  -- Report Source *File* (.tex)
	  -- Report *File* (.pdf), after compilation of source file
	  -- Bibliography *File* (.bib) [A separate .bib file is suggested, but not compulsory.]
	-- Slides *Folder*
	  -- Presentation Source *File* (latex, office, etc.)
	  -- Presentation PDF *File* (.pdf)
	-- Creatives *Folder* (optional)
	  -- any creative stuff (e.g., cool infographics/visualizations of main results
	  -- poster, leaflet, etc.