

18-755: Networks in the Real World
Fall 2022

Milestone 2: Demo and Paper Draft

This milestone consists of two components: a project demo and a report describing your approach and best results so far.

For the **demo**, you should record a video of your project that first briefly describes the main goals of your project, and then illustrates both your implementation and results so far. For example, you could pick a representative scenario, then run your project (software, hardware, or both, as appropriate), and record the entire thing showing the output in a meaningful format, as appropriate. Feel free to be creative and design your demo so that it best shows off your project and results. Just keep in mind that for this milestone the emphasis is on the implementation aspects of your project (i.e., *no* slides should be used to describe your project or main ideas). We should see significant progress since milestone 1. You should end your demo with a brief discussion of what you plan to do for the final milestone.

Students should record their video in one of the following acceptable formats: MP4, AVI, MOV, MPEG, and WMV. Each video can be a maximum of **3 min** long for 1-person teams, **5 min** long for 2-person teams, and **7 min** long for 3-person teams, and should show the demo in full screen and the presenters in a small window on the screen. The quality of the video should be lowered such that the video stays within **120MB**. You may use Zoom or your preferred software for recording the video. *All members of your team should participate in the video* (contact the professor and TA if you have any issues with this).

Also, remember that the code you developed, clarity, and relevance of the results presented are very important for conveying the key points of your project. *The video time is limited so you need to carefully plan what you want to show during the demo!*

For the **report**, you should extend your report from milestone 1 up to a maximum of **4 pages** for 1-person teams, **5 pages** for 2-person teams, and **6 pages** for 3-person teams (with the same formatting as milestone 1 – two-column format, 10 or 11pt font size, single spaced lines) and include the following information:

1. Title of the project and author(s)
2. Abstract (up to 150 words)
 - Provide an overview of the project, approach, and main results.
3. Introduction and motivation
 - Give a short (informal) description of your problem.
 - Summarize the main objectives and mention what is novel or exciting about your approach.
 - Describe the motivation and impact of your project.
4. Previous work
 - Discuss prior work that relates to your project and focus area (at least 3 references for 1-person teams, 4 for 2-person teams, and 5 for 3-person teams)
 - How does your approach relate to and/or improve or expand on this prior work? Put your work into perspective.
5. Approach
 - Describe your approach including:
 - o What is your dataset?

- How do you build the network(s)? What do nodes/links consist of?
 - What are your assumptions? What are your main tasks?
 - What analysis do you plan to run and why?
- What are the main research questions in this project? Use a small example, as appropriate.
- What is the scalability of your approach?
- 6. Results
 - Show the most complete and important set of results you have so far.
 - Explain the significance and limitations of your results.
- 7. Conclusion and short-term plans
 - Summarize your main ideas and findings.
 - What are your plans for Milestone 3?
 - Specify each member's contribution up until now (for 2-3 person teams)

Note, these are suggested guidelines and you can modify them to best describe your own project. Additionally, these papers will be peer reviewed by your classmates.

Both the demo is due on **11/14/2022** and the report is due on **11/16/2022** at **11:59pm ET** for Pitt students and **PT** for SV students. The reports must be submitted to EasyChair, in addition to Canvas – see Canvas assignment for more details.

Last but not least, the points breakdown for this milestone (200 pts total):

- Project demo: 75 pts (intro/main goals: 10 pts, demo relevance to project objectives: 20 pts, convincing results: 25 pts, potential for future uses/extensions: 10pts, next steps: 10pts)
- Project report: 125 pts (abstract/introduction: 20 pts, prior work: 10 pts, approach: 40 pts, results: 40 pts, conclusion: 10 pts, writing style (*e.g.*, clarity, organization, English): 5 pts)

Note, deductions may be applied to the report for not following the specified formatting and page limits (all text, figures, references, etc. should fit within the specified page limits).

Good luck!