

## 8813: Advanced Computer Security, Fall 2023

### Guidance For Presenters

Your goal is to prepare a 40 minute lesson about the topic. The focal point of your presentation must be the main paper that was assigned to the entire class to read. In your presentation, be sure to provide a *neutral* description of what you think the paper is about: i.e., what were the authors' motivation, what specific problem were they trying to solve, how their solutions differed from alternative approaches to solving the problem, and what specific contributions they made. For your lesson, it is important that you:

- Place the paper in context, being sure to contrast that work with the secondary reading listed on the course website.
- Explain how the main contribution(s) of the paper compare to the prior art
- Explain the specific research questions, the methodology and approach taken to answer these research questions.
- Discuss how the understanding of the topic changed, and any new insights
- Co-lead a discussion about the paper based on themes, questions, concerns and extensions that are expressed in the written reviews (see below on *Guidance for Reviewers*).
- Read the main paper and supplementary material several times, review talks the authors have given on the topic (those are usually available on the conference website), and explore any code or demos they released

During your lesson, you will not have time to delve into specific details of all parts of the main paper, but you are expected to present an in-depth assessment of the research method and main findings. See below for some questions you should be asking yourself when putting your presentation together (as your classmates will be doing the same in preparing their written review). **A draft of your presentation will be due to me 2 days in advance of your in-class presentation. Office hours have been set aside for review and feedback on your presentation.**

### Guidance For Reviewers

For those students not presenting the lesson, you must provide a review (**max 2 pages**) of the main paper. Your review must be uploaded to Canvas **24 hours before the presentation date**. Be sure to summarize the paper in your own words, and use the questions below as a guide to rewriting your review of the paper. In class, we will discuss mindsets and suggestions for reviewing papers prior to your first review assignment. To

write a constructive review, you will need to read the paper more than once. Plan accordingly! Your first pass should be a quick read so that you get a good sense of what the paper is about. Then, do a more thorough review, making notes along the way about the strengths and weaknesses of the paper, keeping in mind the questions below:

- What were the goals of the research? What were the (implicit and/or explicit) research questions, and how well were these answered?
- What assumptions did the authors make, and were these assumptions justified? Explain your answer.
- Does the methodology target the research question(s) appropriately? If yes, what did you find as the most interesting aspects of their methodology? If you believe the methodology fails to adequately address the main questions, explain why.
- Is the methodology explained and designed in a way that makes it reproducible? If not, *what specific information would you have liked to see instead?*
- Were the conducted experiments appropriate for the goals of the research? What aspect of the experimental approach did you find most convincing? If you felt the experiments fell short in some way, explain why.
- Are there any weaknesses or concerns with the overall approach (e.g, were the statistical tests chosen the appropriate ones, did the findings support the claims?) beyond any specific threats to validity stated by the authors? Are there issues with how the data was processed? Are there any ethical concerns? If you think there are issues, explain them and suggest how you might go about answering them. Likewise, what did you *like most* about the paper? What, in your opinion, is the really neat part? Overall, this exercise is not about “tearing a paper apart” – it’s about critical thinking and finding ways to improve your own research (via reflection).
- What outstanding questions do you have about the paper, and what might you have done differently (e.g., in terms of analysis, evaluation, methods)?

IMPORTANT: In your review, I expect the vast majority of the aforementioned questions to be addressed. **Additionally, each student must discuss at least 1 idea as an extension or followup experiment.** For questions or concerns that arise when reading the paper, think about how you would address those as an “extension”. Similarly, if you found some part of the methodology interesting, think about in what other context you might apply the core idea or the learned method. You will be called upon to discuss your idea(s) in class. Lastly, there is no explicit format for the review, but you can structure it in 4 parts: Summary, Strengths and Weaknesses, Technical Comments, and Extension(s).