CS580: Computer Graphics
Presentation Guidelines

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Course URL:
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Student Lecture and Paper Presentation

- **Related to your interest (student lecture) and research activity (paper presentation), which is useful for your long-term career**
  - **Edu 4.0 course asking students' participation**
  - **Things are changing rapidly due to chatgpt, etc.**
- **Make a team of 1 ~ 2 persons; 2 is better!**
  - **Two presentations per team**
- **Identify a lecture topic and a recent paper present during the semester**
  - **Lecture topic list will be available**

Paper Presentation

- **Covers a recent paper published in top-tier conf/journals**
  - **Publication year: 2021 ~ today**
  - **Conf. examples: SIGGRAPH/Asia, CVPR/ECCV/ICCV, NeurIPS/ICRL/ICML/AAAI, any top-tier conf.**
  - **Do not talk about low-level details; talk about high-level ideas/results**

Student Lecture Presentation

- **Covers a sub-topic of computer graphics or a bit old single paper or multiple papers**
  - **Do not talk about low-level details; talk about a high-level and broad set of ideas/results**
  - **You can utilize existing tutorials (and slides) given in some conferences**
  - **Or you can talk about a prior paper to your paper presentation; publication year: 2017 ~ today**

Key difference between two talks:

- paper presentation talks about a recent paper

- student lecture presentation gives its broad background or tutorial about it

Topic or Keyword Lists

- **Are available at homepage**

A. Core Rendering Algorithms [Classical]

- Path tracing variants: bidirectional path tracing, Metropolis light transport, manifold exploration.
- Photon mapping & progressive photon mapping.
- Many-light methods: Lightcuts, Instant Radiosity.
- Spectral rendering vs RGB: dispersion, fluorescence, thin-film interference.

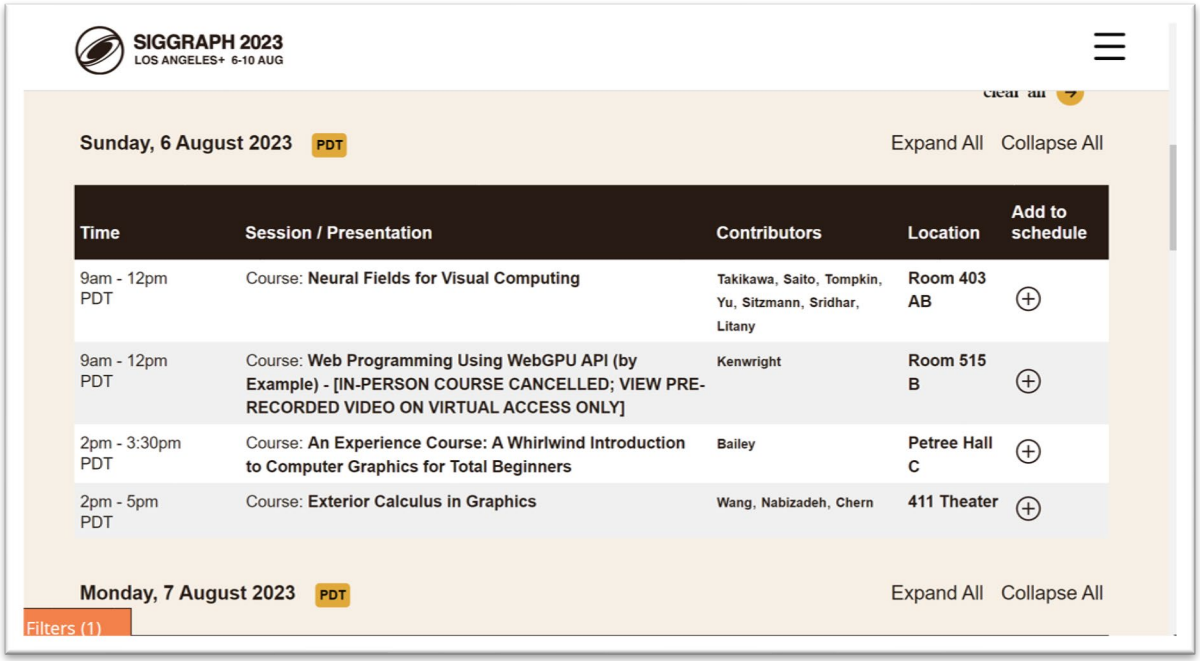
B. Acceleration & Efficiency [Classical]

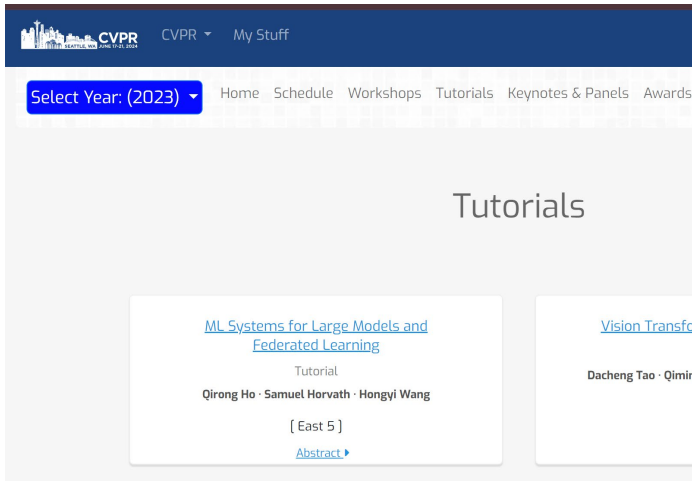
- Importance sampling: neural path guiding, product sampling.
- Reservoir sampling and ReSTIR (spatio-temporal sample reuse).
- GPU ray tracing acceleration (BVH optimization, RT cores).
- Out-of-core rendering for large-scale scenes.

C. Materials & Appearance Models [Classical → Generative]

Utilize Tutorial/Courses at Conf.

- There are many tutorials and courses at conf.
  - You can utilize their slides; don't forget to give proper credit





You can use Sec. 2 of your main paper for the lecture presentation

- Suppose that you decided to present the following paper:
  - Match: differentiable material graphs for procedural material capture, ToG, 20
- It discusses many prior papers in the following categories in Sec. 2
  - Material Capture
  - Procedural noise by example
  - Inverse Procedural Material Modeling
- You can discuss those papers under either one of those categories
- Or, you can just present a prior paper

Student Presentation Guidelines

- **Good summary, not full detail, of the paper**
  - **Talk about motivations of the work**
  - **Give brief background on the related work**
  - **Explain main idea and results of the paper**
  - **Discuss strengths and weaknesses of the method**

High-Level Ideas

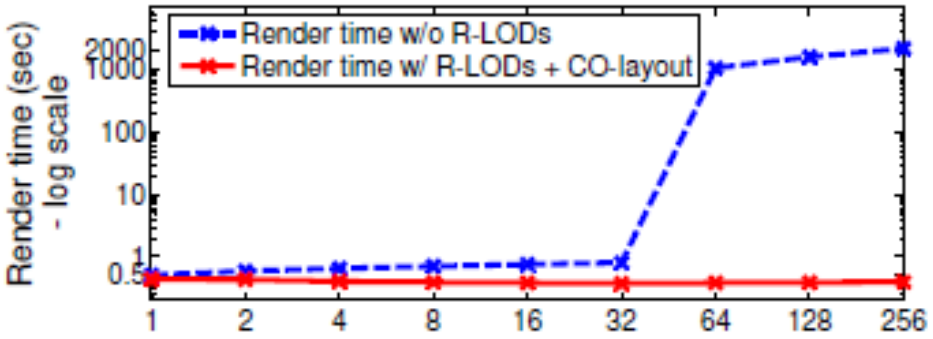
- **Identify main ideas/contributions of the paper and deliver them**
  - **Do not talk about minor details**
  - **Give background as a context for your talk**
- **Deeper understanding on a paper is required**
  - **Go over at least two related papers and understand the chosen problem**
- **Spend most time to figure out the most important things and prepare good slides for them**

Be Honest

- **Do not skip important ideas that you don't know**
  - **Try to understand them as much as you can**

Result Presentation

- **Give full experiment settings and present data with the related information**
  - **What does the x-axis mean in the below image?**



- **After showing the data, give a message that we can pull of the data**

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Utilizing Existing Resources

- Use author's slides and result video if they exist
- Give proper credits or citations
  - Without them, you are cheating!

Talk Time

- **Make it short, due to the difficulty of maintaining long attention**
- **15 min (+/- 3min) for each talk**
  - **Think about main messages of your talk and deliver them well within the talk time**

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Prepare a Quiz

- **Give two simple questions to draw attentions**
  - **Ask a keyword**
  - **Simple true or false questions**
  - **Multiple choice questions**
  - **Provide them through google form or prepare quiz papers**
- **Grade them in the scale of 0 and 10, and send the score to TA**

Audience feedback form

1. Was the talk well organized and well prepared?
5: Excellent 4: good 3: okay 2: less than average 1: poor

2. Was the talk comprehensible? How well were important concepts covered?
5: Excellent 4: good 3: okay 2: less than average 1: poor

Any comments to the speaker

Recurring Comments for Talks

- ~~The recording volume is low. There is a lot of noise or echoing sounds.~~
- No definitions for key terms used during explanations.
- There were many formulas, and it was difficult to follow without explanations; conversely, students liked intuitive explanations, having images, videos, and examples.

Final Message

- **Have some fun and meaningful experience in a way you can broaden your view**