Introduction Lecture
Seminar – Deep Learning in Computer Graphics

17th April 2024

A brain riding a rocketship heading towards the moon.
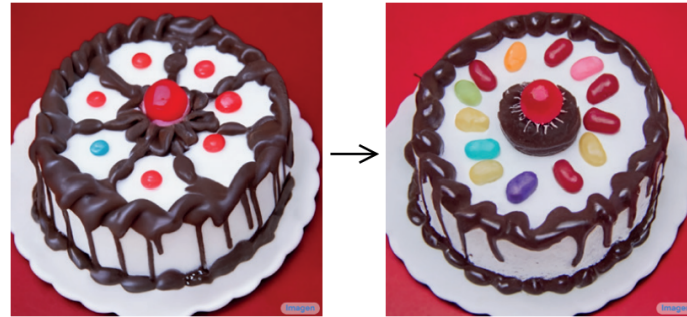
Sahari et al. (2022)

Lin et al. (2022)

"a cake with decorations."
jelly beans

Hertz et al. (2024)

Müller et al. (2022)

Ours (135 fps)
Train: 6min, PSNR: 23.6
Ours (93 fps)
Train: 51min, PSNR: 25.2
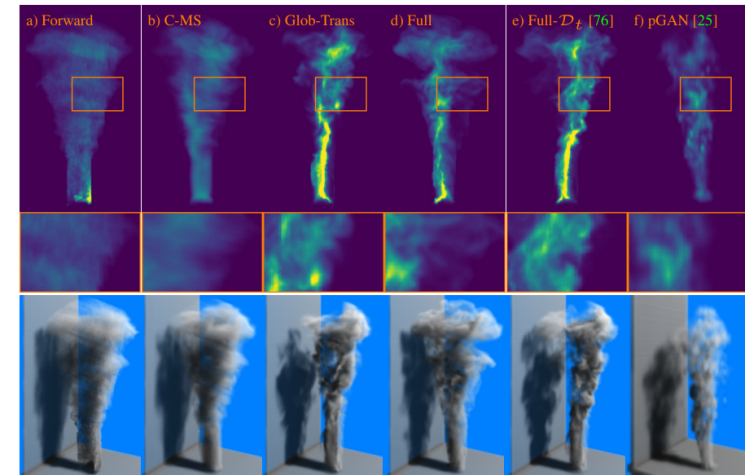Ground Truth

Kerbl et al. (2023)
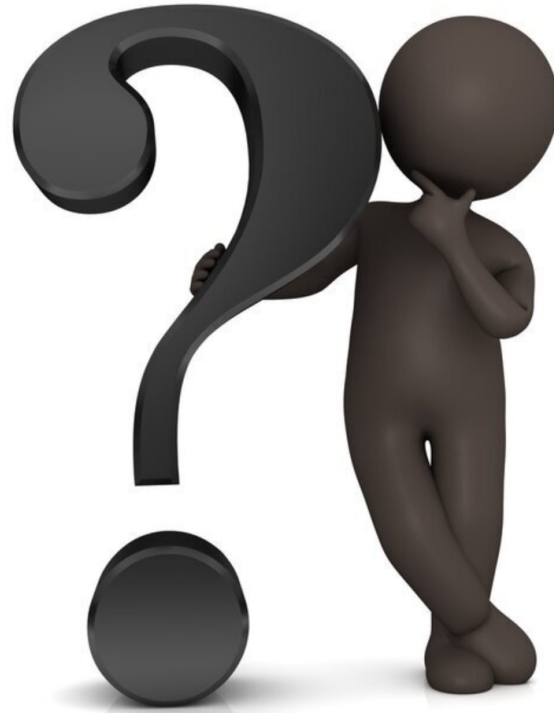

Franz et al. (2021)

About us

Hao Wei

Benjamin Holzschuh

Nils Thürey

About you

About this seminar

- Recent research in deep learning in computer graphics
  - ❏ Be familiar with the basics of machine learning
  - ❏ Know about the structure of neural networks

- Independent investigations
  - ❏ Critical analysis and evaluation of the topic and related work

- Develop writing and presentation skills

Deep Learning Resources

- Book: Hastie et al., The Elements of Statistical Learning

- Book/Online: Goodfellow et al., Deep Learning

- Online: Nielsen, Neural Networks and Deep Learning

Report

- Maximum 4 pages excluding references

- ACM SIGGRAPH TOG format (acmtog) [precompiled latex template](#)

- Due two weeks **after** your talk (Wednesday by 23:59)

- For example, if the presentation is on May 8th, then the final report needs to be submitted by May 22nd

- Guidelines
  - ❏ Summary of the paper
  - ❏ Add own reasoning about the work/own experiments
  - ❏ e.g. comparisons, pros and cons, limitations, possible future work

Slides

- Any slide layout you like, prepare slides as PDF
  - ❏ Ensure readability (colors, images and font size)
  - ❏ Avoid using too much text
  - ❏ Highly encouraged to do some paper-related experiments and show some results in the presentation

- Send semi-final slides one week before your talk, otherwise talk will be cancelled
  - ❏ We will take a look and give feedback
  - ❏ Revise slides until presentation

- Send final slides and final report two weeks after your presentation

Presentation

- Present your topic in English

- 25-30 minutes of presentation

- 5-10 minutes of discussion

- Actively participate in the discussion for other presentations

- Test your setup (laptop/connection to projector) before giving your presentation!

- Tips for a good presentation: [DocTUM: How to give a great scientific talk](#)

- TUMonline registration will happen automatically eventually, no manual registration required

- Advisor
  - ❏ Contact any time you have questions related to the seminar or your paper
  - ❏ Feedback for semi-final slides (and semi-final report if you want)

- Attendance
  - ❏ Missing two sessions is allowed, if you let us know in advance and write a short summary of the papers (~ 1 page) in your own words
  - ❏ Missing another session means failing the seminar (special rules for severe issues as appropriate)

Any questions?