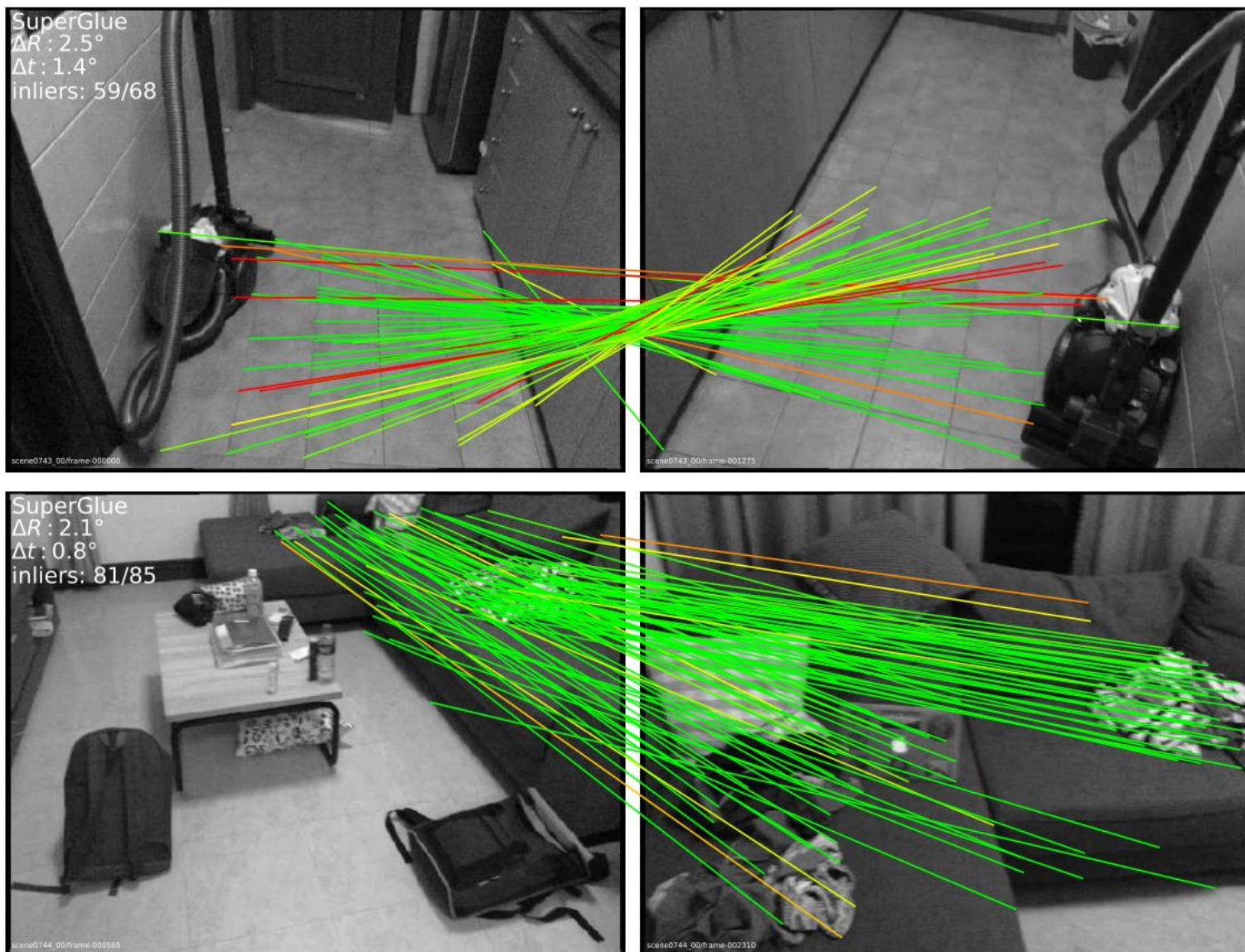


Seminar: 3D Shape Matching and Applications in Computer Vision

Preparation Meeting, 07.02.2022

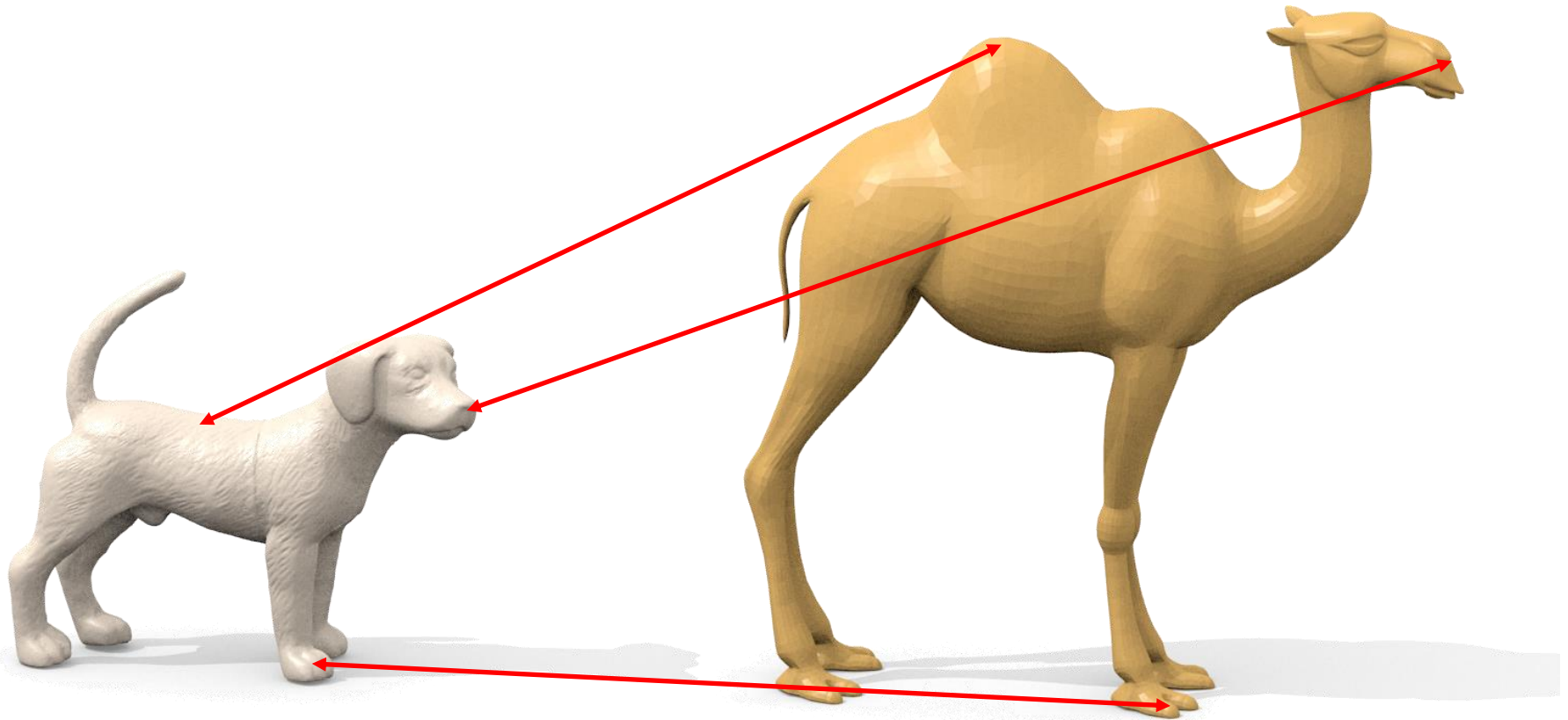
Maolin Gao, Marvin Eisenberger

Seminar: 3D Shape Matching

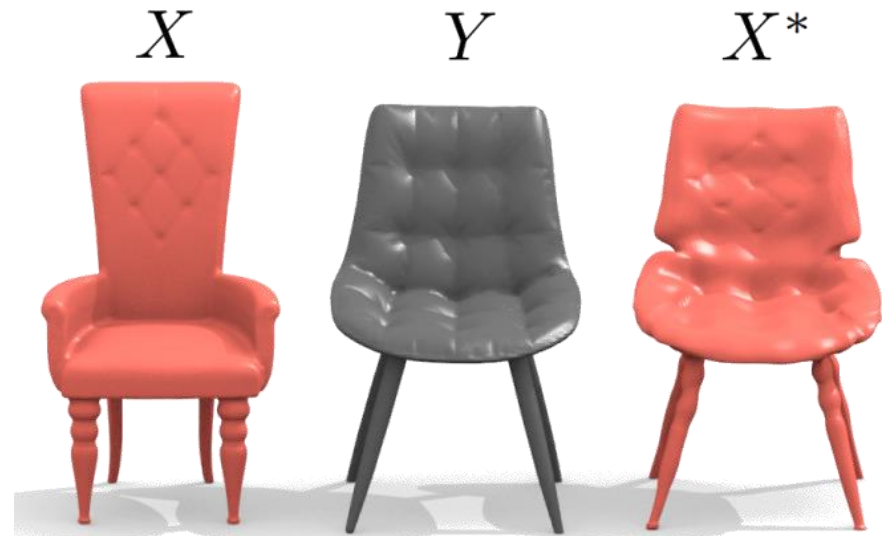
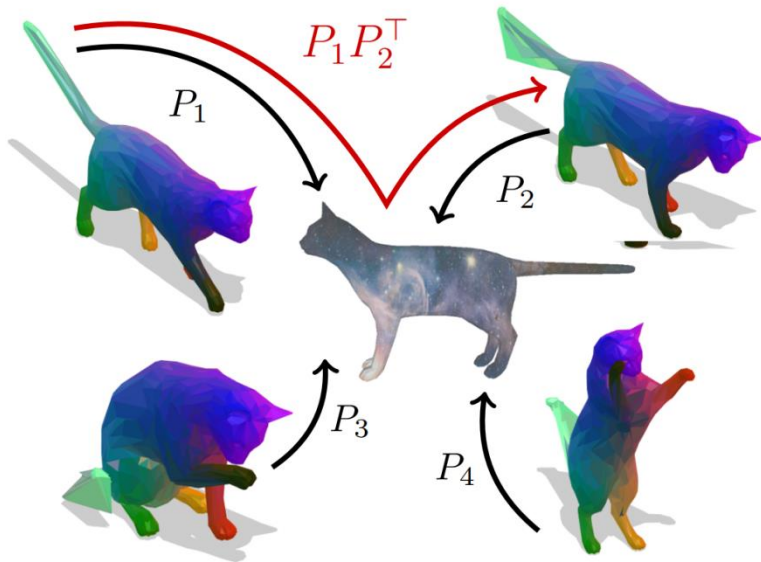
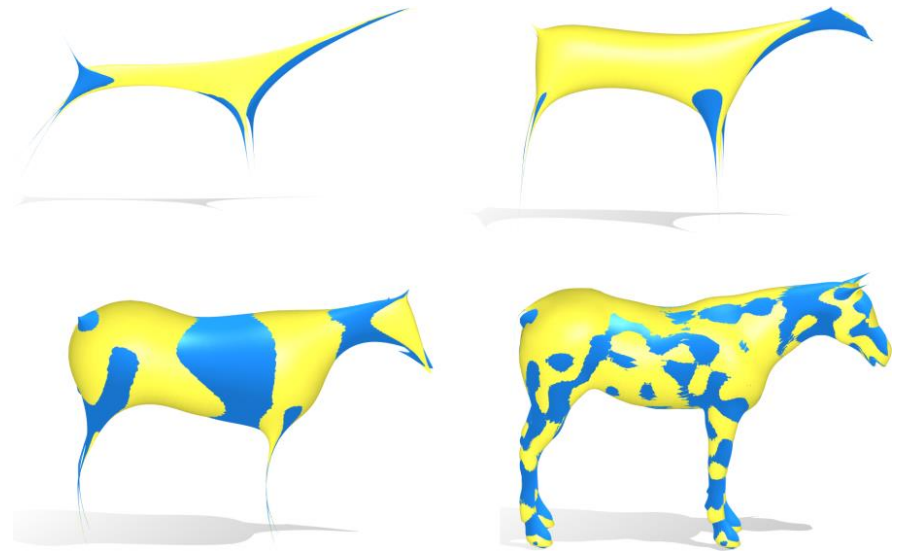
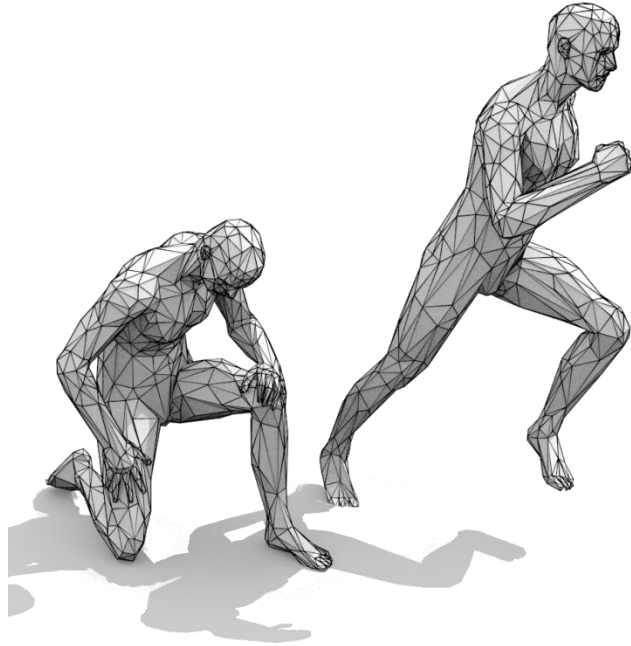


Credit: Sarlin, Paul-Edouard, et al. "Superglue: Learning feature matching with graph neural networks." CVPR 2020.

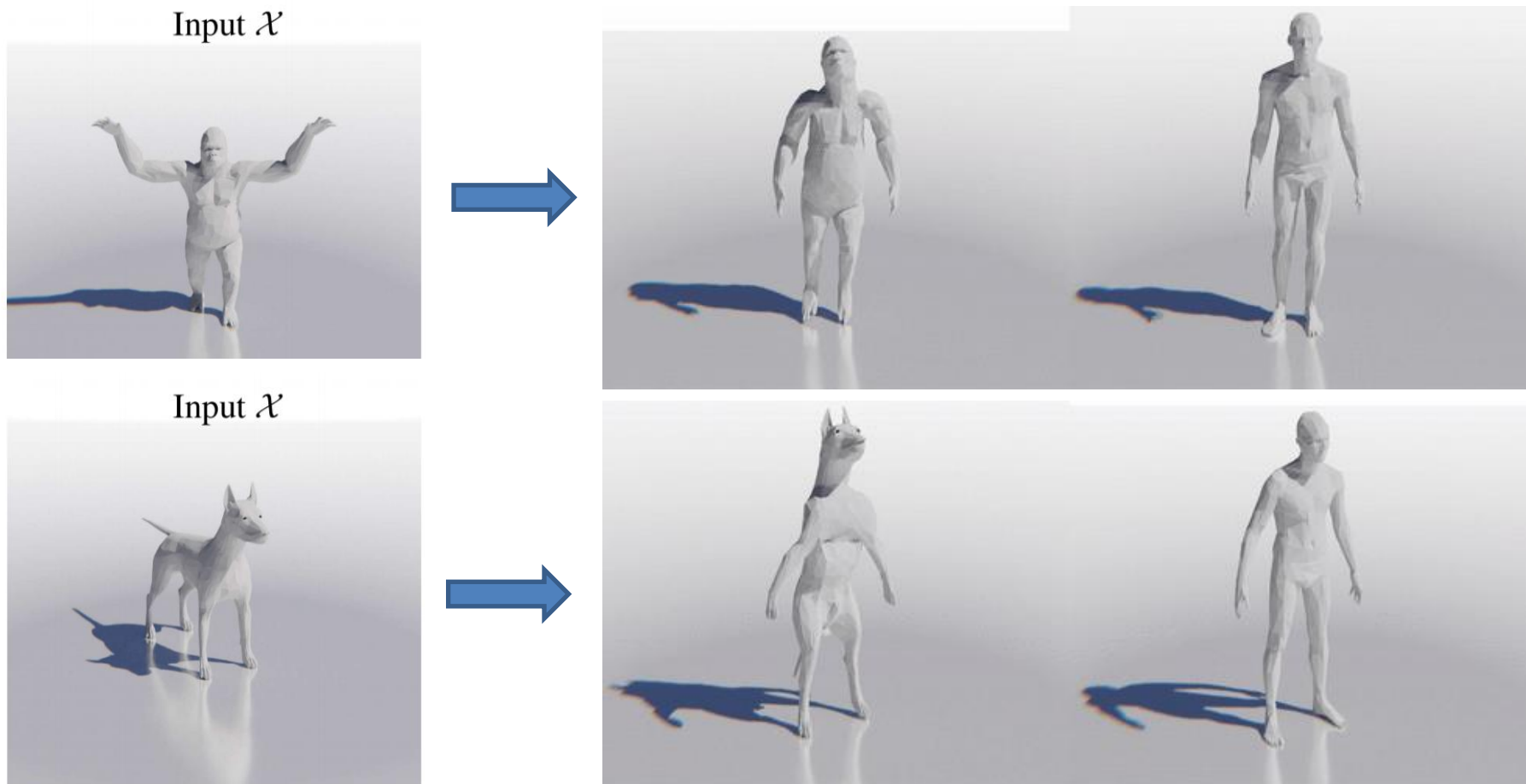
Seminar: 3D Shape Matching



Seminar: 3D Shape Matching



Seminar: 3D Shape Matching



Organisation

Timeslot: Tuesdays, 10:00-12:00 (starting from 26.04.2022 on)

Place: Virtual via Zoom:

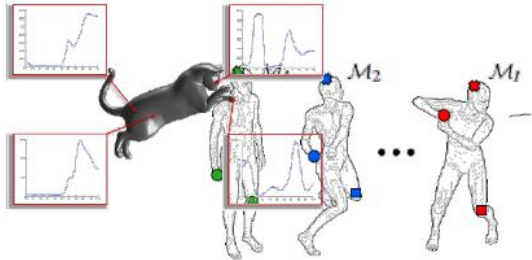
<https://tum-conf.zoom.us/j/66904456451?pwd=Z0YzQmgya2RjMkISRmJVTFpIOTU2QT09>

Website: <https://vision.in.tum.de/teaching/ss2022/3dsm>

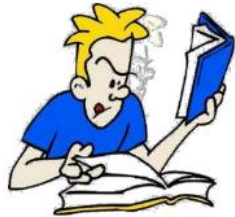
Password: shape2022

Email: 3dsm-ss22@vision.in.tum.de

What you will learn



Get an overview on recent research in 3D Shape Matching and Applications in Computer Vision



Read and understand scientific publications



Prepare and give a talk



Write a scientific report

Preparation

- You do not need to (and should not) work on your topic alone
- Meet at least twice with your supervisor
- It is your responsibility to contact your supervisor for these meetings



1 month



1 week

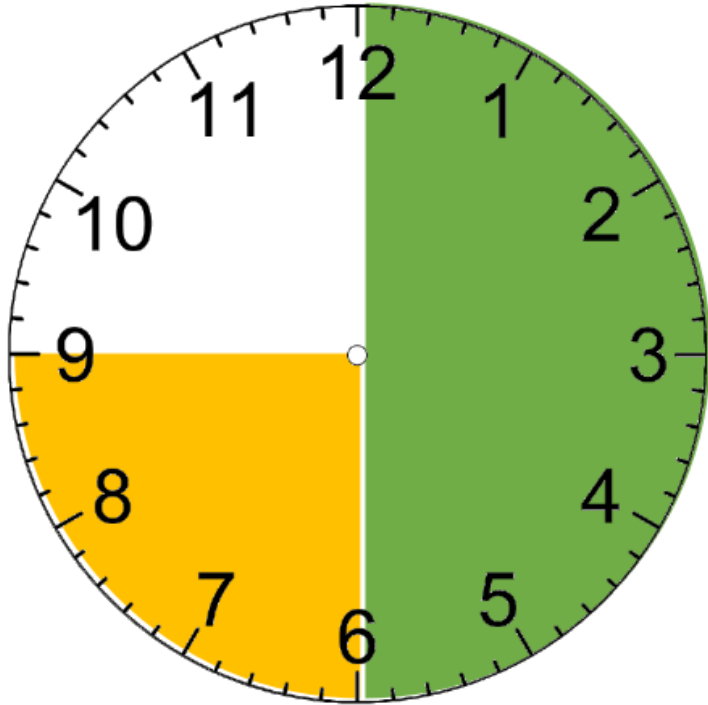


+ 2 weeks



(Hard constraints)

Presentation



- 30 minutes talk + 15 minutes discussion
- use visualizations
- number your slides
- do not make slides full of text
- explain things you had problems understanding when first reading your paper in more detail
- reference the original author and conference/journal name

Recommended structure

1. Introduction of the problem
2. Approach
3. Results (if any)
4. Summary

Report

- Overview and main contributions of the assigned topic
- Not a copy of your assigned material, focus on parts that you found interesting but discuss them more in-depth or concepts you had to do additional work to understand
- The report **is due 2 weeks after the talk** and gives you the chance to make up for questions that were left
- Address the open questions left from the Q&A session.
- 6-10 pages
- Use CVPR Latex template: http://cvpr2021.thecvf.com/sites/default/files/2020-09/cvpr2021AuthorKit_2.zip
- Use your text editor of choice if you must but keep the style similar to the template

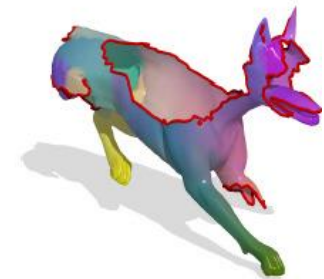
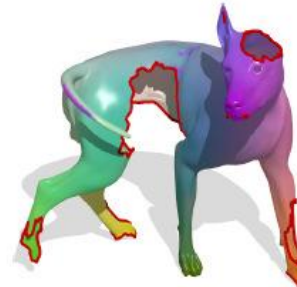
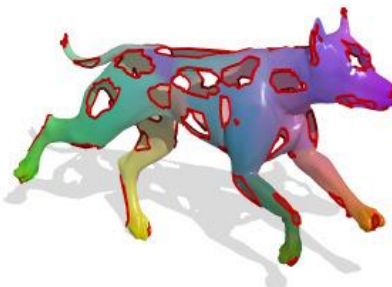
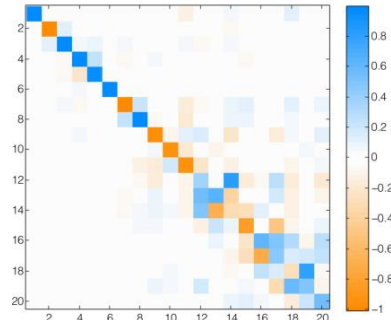
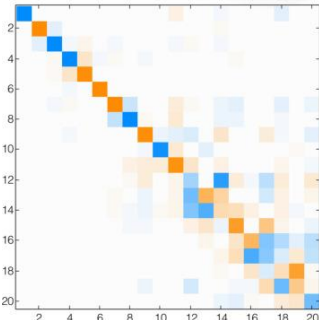
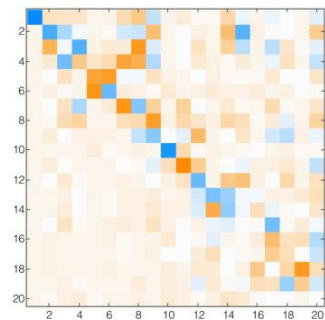
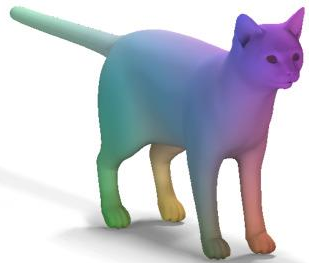


Evaluation Criteria

- Attendance at each meeting is necessary! Contact us **beforehand** if you have other appointments.
- Participation (questions, discussions) influences the final grade.
 - a. Choose the main aspects and interesting subtopics
 - b. Understand them in every detail
 - c. It may be necessary to check related articles or text books
 - d. **Prepare the topic such that it is understandable to the other participants of the seminar**

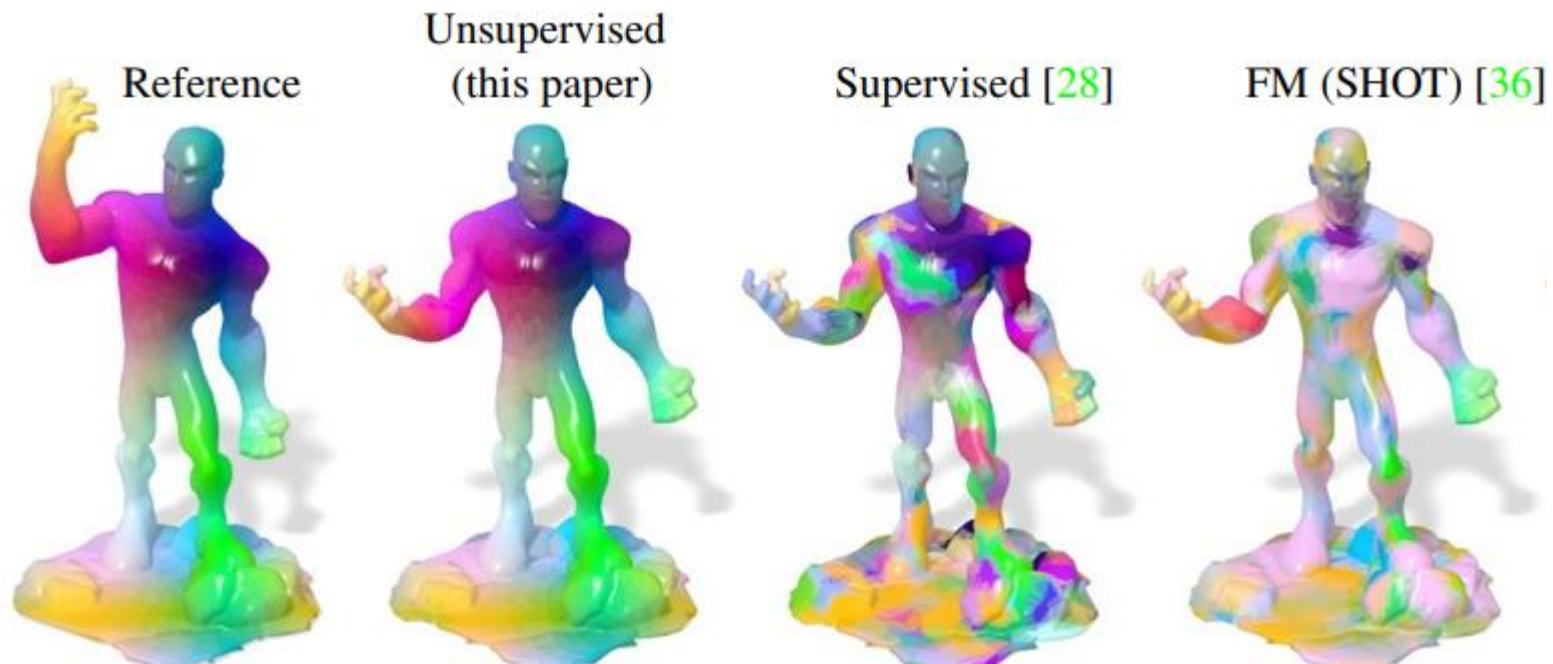
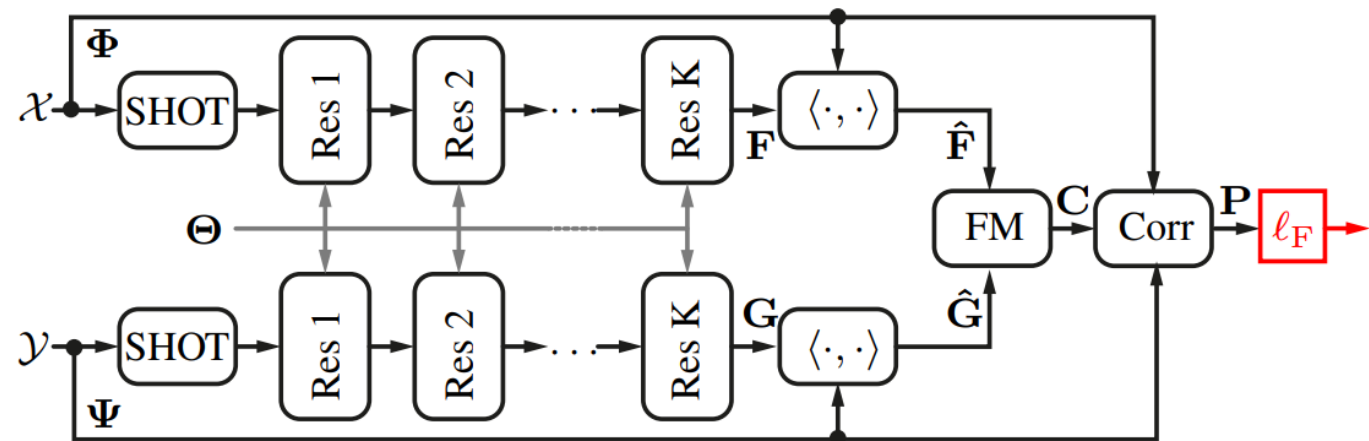
1. Functional Maps: A flexible representation of maps between shapes

Ovsjanikov et al. 2012
Rodolà et al. 2015



2. Unsupervised Learning of Dense Shape Correspondence

Halimi et al. 2019



Registration

- Computer Science & exchange students apply through the TUM Matching platform (matching.in.tum.de)
- There are 12 places in total
- Everyone present at the premeeting gets priority in the matching system, please post your **name**, **TUM-Kennung** and **email in the chat in one message**

Assignment of Topics

- A list of topics will be available on the homepage in the upcoming weeks
- <https://vision.in.tum.de/teaching/ss2022/3dsm>
Password: shape2022
- If you got assigned to this seminar, send us an email to 3dsm-ss22@vision.in.tum.de with your **four** favorite topics
- Topics will be assigned by first come first serve

Any Questions?

- **Webpage:** <https://vision.in.tum.de/teaching/ss2022/3dsm>
- **Password:** shape2022
- **Email:** 3dsm-ss22@vision.in.tum.de

