Introduction Lecture

Seminar – Deep Learning in Computer Graphics

November 2nd 2020

About us

Erik Franz

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About you

Bachelor and master students

a) Informatics

b) Games Engineering

c) Robotics, Cognition, Intelligence

d) Other

About this seminar

Recent research in computer graphics with deep learning methods

- Be familiar with basics of machine learning and computer graphics
- Know about the structure of neural networks and how they learn

Independent investigation

- Critical analysis and evaluation of the topic and related work

Develop writing and presentation skills

Report

Max. 4 pages excluding references

ACM SIGGRAPH TOG format (acmtog) → precompiled latex template

Due for final version two weeks before your talk (Monday by 23:59)

Guideline

- Summary of your paper as a starting point
- Add own reasoning about the work
- 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

Send semi-final slides one week before your talk, otherwise talk will be canceled

- We will take a look and give feedback
- Revise slides until presentation

Send final slides after your presentation

Presentation

Present your topic in English

30 minutes of presentation

10 minutes of discussion

Actively participate in discussion for other presentations

Fill in feedback form for other presentations afterwards

Presentation

Speak freely and don’t just read out your notes

Be ready in advance

- Online talks are different to presentations in person
  → Virtual presentation guide by Lukas Prantl
- Upload slides in PDF format to BigBlueButton (BBB) when presenting
- Be early in BBB room since upload might take some time
- Show videos in local player or with BBB video option (requires a YouTube or Vimeo link)

Avoid distractions and background noise when presenting

Organizational matters

TUMonline registration will happen automatically eventually, no manual registration required

Advisor

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

Attendance

- Missing up to two talks is allowed, if you let us know in advance and write a short summary of the paper (~ 1 page) in your own words
- Missing a third one means failing the seminar (special rules for severe issues as appropriate)

Schedule

Date	Presenter	Paper	Advisor
30. Nov	Victor Oancea	Understanding SSIM	Georg Kohl
30. Nov	Roman Kistol	The Unreasonable Effectiveness of Deep Features as a Perceptual Metric	Georg Kohl
07. Dec	Hanfeng Wu	TileGAN: Synthesis of Large-Scale Non-Homogeneous Textures	Nilam Tathawadekar
07. Dec	Manuel Wagner	Deferred Neural Rendering: Image Synthesis using Neural Textures	Erik Franz
14. Dec	Xi Wang	A Style-Based Generator Architecture for Generative Adversarial Networks	Nilam Tathawadekar
14. Dec	Anagha Moosad	Analyzing and Improving the Image Quality of StyleGAN	Nilam Tathawadekar
11. Jan	Yiman Li	Multi-View relighting Using A Geometry-Aware Network	Nilam Tathawadekar
11. Jan	Mohamed Elshaer	Video-to-Video Synthesis	Erik Franz
18. Jan	Elisa Xiao	DeepLight: Learning Illumination for Unconstrained Mobile Mixed Reality	Georg Kohl
18. Jan	Thomas Brunner	Deep-learning the Latent Space of Light Transport	Erik Franz
25. Jan	Ruilin Qi	Deep Iterative Frame Interpolation for Full-frame Video Stabilization	Georg Kohl
25. Jan	Berk Saribas	Neural Supersampling for Real-Time Rendering	Erik Franz
01. Feb	Michael Sedrak	Equivariant Neural Rendering	Georg Kohl
01. Feb	Maximilian Barmetler	Consistent Video Depth Estimation	Georg Kohl
08. Feb	Leonardo Machado	Mode-Adaptive Neural Networks for Quadruped Motion Control	Nilam Tathawadekar
08. Feb	Shiyu Li	Lagrangian Neural Style Transfer for Fluids	Erik Franz

Any questions?