# Introduction to Computer Vision

## Course overview

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02504 Computer vision course lectures,
DTU Compute, Kgs. Lyngby 2800, Denmark

**This lecture is being livestreamed and recorded**

**(hopefully)**

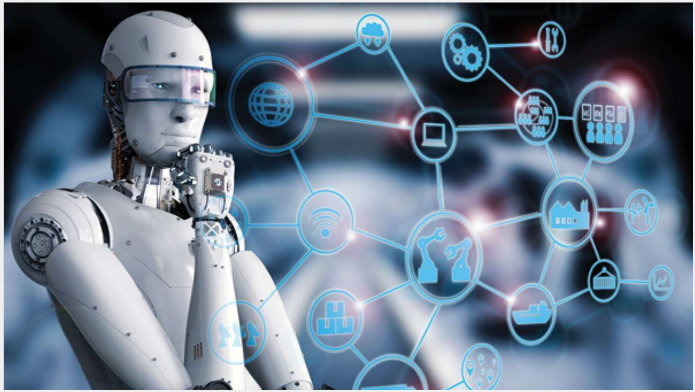
# Welcome

About me: Morten Rieger Hannemose
Assistant prof. at DTU Compute, Section for Visual Computing
Background in computer vision and differentiable rendering

I work with various applications within computer vision
camera calibration, 3D scanning, and skin cancer.

# What is computer vision?

Making machines see and perceive



# Observing requires a lot more than *just* taking a photo!

- Seeing with cameras
- Recognize features
- Measure lengths and depth

# Core elements of this course

This course focuses on the 3D aspects of computer vision.

- Camera model
- Multi view geometry
- 3D reconstruction
- Image features and matching

# Other courses

Prerequisite: 02502 Image analysis

- Digital representation of images
- Image filters
- Image features

Other courses in computer vision/image analysis:

- 02506 Advanced Image Analysis
- 02514 Deep Learning in Computer Vision

# Course overview

- 12 weeks of lectures + 1 guest lecture
  - Shorter lecture followed by examples and exercises
- Written exam
  - 4 hours
  - Multiple choice

# Reading material

- "Computer Vision: Algorithms and Applications" by R. Szelisky, 2nd ed. (F&P)
- Lecture notes by Henrik Aanæs (LN)
- Two papers: Zhang 2000 and Zhang 2018
- Further reading:
  - "Multiple view geometry in computer vision", by R. Hartley and A. Zisserman

# Exercises

- Find them on DTU Learn
- No hand-ins, some solutions
- Help each other and use the TAs
  - Don't expect TAs to magically spot errors
  - Learn how to debug from them

# Questions?

- Feedback is welcome throughout the course