M.Sc. Visual Computing
Program at a glance

- Focus program on visual computing, in particular visualization, computer graphics, and computer vision
- Non-consecutive master program
- Taught in English
- 2 years, 4 semesters
- Research oriented
What is Visual Computing?

◦ Generation, processing, and analysis of visual data
  › Generation: computer games, visualization, movies, CAD, visual analytics, ...
  › Processing: noise removal, feature enhancement, ...
  › Analysis: autonomous driving, satellite images, ...

◦ Connections to many other fields: machine learning, numerical mathematics, simulation science, ...
Objectives of the program

◦ Solid foundation on techniques and methodologies

◦ Ability to independently solve novel problems in visual computing (or a sub-field of it)
  › Identify suitable approaches in the scientific literature and adapt / extend these for the problem

◦ Ability to work cooperatively in larger, international teams (either as member or as team lead)
Curriculum

- 1. semester, introductory courses: visualization, computer graphics, augmented and virtual reality, numerical methods for visual computing
  - Mandatory except you already took them
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- **1., 2., 3. semester, electives**: computational geometry, computer vision and deep learning, flow visualization, computer-assisted surgery, visual analytics, ...
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- **1., 2., 3. semester, electives**: computational geometry, computer vision and deep learning, flow visualization, computer-assisted surgery, visual analytics, ... + all courses from the Dept. of Computer Science and approved courses from other departments
Curriculum

- 3. semester: scientific team project
  - Preparation for M.Sc. thesis and work on larger projects in a team
Curriculum

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   › Preparation for M.Sc. thesis and work on larger projects in a team

◦ 4. semester: M.Sc. thesis
   › Embedded in the research of the individual groups
People

- **Holger Theisel**, Scientific visualization, computer graphics
- **Bernhard Preim**, visualization, data analytics
- **Christian Hansen**, virtual and augmented reality, in particular for medical applications
- **Christian Lessig**, computer graphics, simulation
- Currently in the hiring process: computer vision
Possible jobs after graduation

- Research and development in
  - Computer games (Crytek, NVIDIA, ...)
  - Medical imaging (Siemens, ...)
  - Data science (SAP, ...)
  - Autonomous driving (Bosch, VW, ...)
- Academia
Formal requirements

- B.Sc. with at least 2.5 average
- C1 language certificate (or equivalent)
- One letters of recommendation
- Letter of motivation

Application (for current German students):
https://myovgu.ovgu.de
More information

- [https://www.ovgu.de/mscvisualcomputing.html](https://www.ovgu.de/mscvisualcomputing.html)
- [Formal documents](#)
- Email me: christian.lessig@ovgu.de