





## 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

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### 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, satelite images, ... Connections to many other fields: machine learning, numerical mathematics, simulation science, imaging in science, ...

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### 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 scientic literature and adapt / extend these for the problem Ability to work in larger international teams (either as member or as team lead)

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#### 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

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- 4. semester: M.Sc. thesis Second Second

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### People

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 <u>Holger Theisel</u>: Scientific visualization, computer graphics • <u>Bernhard Preim</u>: visualization, data analytics <u>Christian Hansen</u>: virtual and augmented reality, in particular for medical applications <u>Christian Lessig</u>: computer graphics, simulation Currently in hiring process: computer vision

### Possible jobs after graduation Research and development in Computer games (Crytek, NVIDIA, ...) Medical imaging (Siemens, General Electric, ...) > Data science (SAP, IBM, ...) > Autonomous driving (Bosch, VW, ...) > ... Academia

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### Formal requirements (for German students) • B.Sc. with at least 2.5 average C1 language certificate (or equivalent) One letters of recommendation Letter of motivation

# https://myovgu.ovgu.de

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Application (for current German students):

#### More information

Formal documents

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#### <u>https://www.ovgu.de/mscvisualcomputing.html</u>

#### Email me: <u>christian.lessig@ovgu.de</u>