Vision Science @ Ulm University

Institute of Neural Information Processing
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Computer Vision – Developing core technology for intelligent analysis of sensor data and automation

How does the brain control behavior? How can technology emulate biological intelligence?

- Psychophysics
- Neurophysiology
- Imaging
- Computational neuroscience
- Computational vision
- Bioinspired robotics
- Human-computer interaction
- Neural modeling
Neural Modeling
- Motion perception
  - Aperture problem
  - Motion segmentation
  - Spatial navigation
- Attention and visual search
- Surface boundary detection
  - Feature extraction
  - (Illusory) contours
  - Texture segregation
  - Stereopsis

Psychophysics
- Form & motion perception
- Eye tracking

Neurophysiology
- ERP for figure-ground analysis

Imaging (fMRI)
- Feature contrast in texture boundaries

Computational Vision
- Multi-scale process.
- Boundary grouping
- Motion analysis

Bioinspired Robotics
- Space-variant active vision
- Robot navigation

Human-Computer Interaction
- Emotion recognition
- View direction