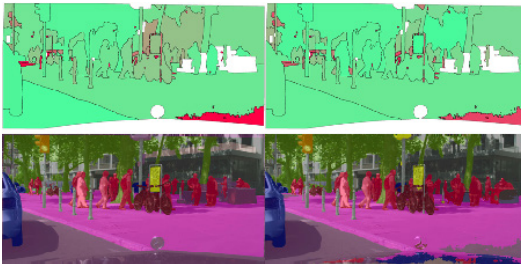


Tuesday 18 February 2025 - Afternoon Talks

Urania Berlin, Old Wing (Altbau), 3rd floor, An der Urania 17


15:00 Hanno Gottschalk *(TU Berlin)*

Uncertainty quantification in computer vision



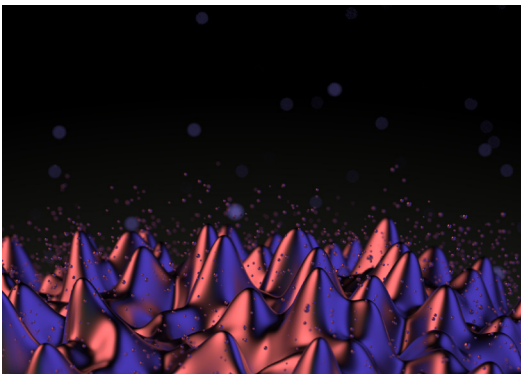
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Perception and semantic understanding of complex scenes has made major advances since essential breakthroughs were accomplished by deep learning technology. Nevertheless, when such AI driven perception systems are deployed in safety critical applications like automated driving (AD), it is essential that these systems recognize their boundaries by online monitoring. In this talk, the lifecycle of AI perception systems for AD is considered. Starting from primary training, over uncertainty quantification to the detection and localization of anomalous objects, to ultimately the extension and repair of AI driven perception systems. We also highlight the role played by vision language foundation models to achieve robust predictions under domain shifts.

Hanno Gottschalk is chair of the research group "Mathematical Modeling of Industrial Life Cycles" at TU Berlin. 

15:30 Max von Kleist *(FU Berlin)*

Bringing mathematics into public health decision support



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(Systems Medicine of Infectious Disease)

After giving a short overview of current research activities, Max von Kleist will discuss considerations, obstacles and solutions to bringing mathematical results into decision support. For the use case of HIV prevention, he will then describe how the public health question drove the development of mathematical models and numerical methods and how their application, in return, informed WHO guidelines on HIV prevention.

Max von Kleist is professor of mathematics for data sciences at FU Berlin and researcher at the Robert Koch Institute in Berlin. 