International Lecture*

22 November – 28 November 2019

Friday, 22 November to Saturday, 23 November

Computer Vision

Computer vision is the problem of extracting scene and object information from single or sequences of images. Humans receive most of the information about their environment through their eyes. Modelling similar capabilities on a computer is a challenging problem that has received much research attention in the last 40 years. Today, there are many applications of computer vision: automatic mail sorting, analysis of medical images, and self driving cars. The course will present the theoretical underpinnings and the most important applications of computer vision.

Prof.Dr.-Ing Jacky Baltes, National Taiwan Normal University, Taiwan.

Starting Friday, 22 November, 13:00

Monday, 25 November to Thursday, 28 November

Low Power Wide Area Networks(LPWAN)

Low Power Wide Area Networks (LPWAN) attract moreand more attention in various IoT applications thanks to their abilities in connecting sensor devices which are usually low power and are distributed in wide areas. The goal of this short course is to bring a basic introduction of the main LPWAN technologies to the students.After a shrt overview of the history, different LPWA (Low Power Wide Area) technologies, e.g., LoRa (Long Range), NB-IoT (Narrow Band IoT), and Sigfox are discuted to show their physical features. As one of the dominant LPWAN technologies, the wide area network based on LoRa (LoRaWAN), is introduced afterwards. The architecture, the protocols, as well as the packet format are discussed to understand the communication procedure between the end nodes , the concentrator / gateway, and the network server of a LoRa/LoRaWAN network. In the next part of this course, use case of LPWAN in different areas including in the area of smart city, industry IoT, are presented. This course is closed with several discussion points about the challenges and the futur work that the LPWAN stillis facing to satisfy the connectivity of tens of billions of end devices in the next decade.

Fr. Prof.-Dr.-Ing. Qin Dai, Zhejiang University of Science and Technology, China.

Starting Monday, 25 November 09:00

* Internationale Vorlesungen - können als Wahlpflichtvorlesungen mit 2,5 Credits anerkannt werden. Eine Anmeldung ist nicht erforderlich – gehen Sie einfach hin.