A U S H A N G

FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

D I S P U T A T I O N

Mittwoch, 10. März 2021, 10:00 Uhr

WebEx

Disputation über die Doktorarbeit von

Herrn José Antonio Álvarez Ruiz

Thema der Dissertation:

Outdoor Visual Navigation of a Smart-Wheelchair with the Visual Compass Algorithm

Thema der Disputation:

Spatiotemporal Camera-LIDAR Calibration: A Targetless and Structureless Approach

Die Arbeit wurde unter der Betreuung von **Prof. Dr. R. Rojas** durchgeführt.

Abstract: Combining multiple sensors allows acquiring sensory information that could not be obtained by the sensors in isolation. For example, LIDARs deliver accurate range but no color, whereas monocular cameras provide color but no range. By combining both modalities, one could, for example, obtain high-quality colored pointclouds. That combination requires that the measurements from individual sensors are expressed in a common coordinate frame and synchronized in time.
This presentation discusses a recent development in spatio-temporal co-registration of a monocular camera and a LIDAR. The method estimates a rigid-body transformation between the sensors and a time lag from data acquired in natural scenes and does not require a calibration target. The authors demonstrate their method on three different platforms: a handheld device, a car, and a four-legged robot.

Park, C., Moghadam, P., Kim, S., Sridharan, S., & Fookes, C. (2020).
Spatiotemporal camera-LiDAR calibration: A targetless and structureless approach. IEEE Robotics and Automation Letters, 5(2), 1556-1563.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr. R. Rojas