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TECHNISCHE FAKULTÄT

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

FUSION - the Algorithmic Core of Multifunctional Multisensorics

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Donnerstag, der 01.06.2017, 17^{00} Uhr
Fraunhofer-Institut für Integrierte Schaltungen IIS
Am Wolfsmantel 33, 91058 Erlangen, Seminarraum im EG (Raum 0C1.05)

Diskussionsleitung: Prof. Dr.-Ing. Jörn Thielecke

Sensor Data Fusion may be viewed as one of pillars Artificial Intelligence: Its algorithms combine pieces of incomplete and imperfect information from mutually complementary sensor in such a way that a better understanding of real-world phenomena is achieved. Typically, this insight is either unobtainable otherwise or exceeds what can be produced from a single sensor output in accuracy, reliability, or cost. Appropriate collection and sensor resources management, sensor registration and alignment, stochastic filtering, data association, logical analysis, space-time integration, exploitation of redundancies, quantitative evaluation, and appropriate visualization are part of Sensor Data Fusion as well as the integration of related non-sensor context information.

The talk will address ongoing research activities in this context at Fraunhofer FKIE and be focused on the algorithmic core of exploiting multifunctional sensors and networks of distributed sensor networks. We will try to provide a relatively comprehensive overview of state-of-the-art methodologies on different levels of processing, from signals to more condensed informational entities, such as plots, tracks, classification results, and multiple object vignettes. This selection will reflect the author's personal point of view and will be illustrated by examples from his own research and ongoing projects in his department relating to environmental scanning, public safety and multi-sensor unmanned air vehicles.