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HIDA lecture: Data-Driven Inertial Sensing

Friday 16 September 2022 10:00 (1 hour)

The purpose of navigation is to determine the position, velocity, and orientation of manned and autonomous platforms, humans, and animals. Obtaining accurate navigation commonly requires fusion between several sensors, such as inertial sensors and global navigation satellite systems, in a model-based nonlinear estimation framework. Recently, data-driven approaches applied in various fields show state-of-the-art performance, compared to model-based methods. In this talk, we address data-driven based navigation algorithms, recently derived at the autonomous navigation and sensor fusion lab. The purpose of those algorithms is to enhance common navigation and estimation tasks and open new possibilities for accurate and robust navigation. Data driven inertial navigation topics included in this talk will highlight hybrid learning and end to end learning approaches for different platforms and applications such as: pedestrian dead reckoning with inertial sensors, quadrotor dead recooking, learning vehicle trajectory uncertainty by hybrid models, and autonomous underwater vehicle navigation.

This lecture will take place in a hybrid format: We will stream the talk via Zoom from our HIDA offices in Berlin-Mitte.

→ **Register here** ←

Maximum number of participants

Learning target

Target audience

Open to everyone

Previous experience

None

Presenter: KLEIN, Itzik (The Hatter Department of Marine Technology, Charney School of Marine Sciences, University of Haifa, Israel)

Session Classification: General