Personal information

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About the Author

Stefan Hinz graduated in 1998 from the Technische Universitaet Muenchen (TUM) with a Dipl.-Ing. degree in geodesy and geoinformation and, in 2003, he received the Dr.-Ing. degree with "summa cum laude" for his PhD work on Automatic Extraction of Urban Road Networks from Aerial Images.

From 1998 to 2003, he was a scientific collaborator at the Chair for Photogrammetry and Remote Sensing of the TUM Institute for Photogrammetry and Cartography. Since then he holds the position of a scientific assistant at the Remote Sensing Technology unit of the same institute. He is steering commitee member of the institute's Joint Research Lab "Image Understanding for High Resolution Remote Sensing" and serves as head of the Helmholtz Young Investigators Group embedded in JLR.

From March to June 1999, he was with the Institute of Robotics and Intelligent Systems (IRIS) of the University of Southern California at Los Angeles. The research conducted at IRIS was funded by the German Academic Exchange Service by a grant.

Since 1998 he published about 80 contributions, of which more than 30 are peer reviewed articles.

Research interest

Methods of computer vision and their application to optical and microwave remote sensing

Summary

Advanced SAR image exploitation

Recent advances in Synthetic Aperture Radar Technology have seen the spatial resolution of SAR images entering the meter regime for satellite images and the (sub-) decimeter regime for airborne sensors. Consequently, the semantic content of SAR images comprises more details about the imaged objects but becomes also more complex. This leads to the fact that traditional pixel-based approaches to automatic interpretation of SAR images, such as segmentation and classification, show only limited success as they operate mainly in a data-driven “bottom-up” manner.

This tutorial will provide an introduction to model-based approaches to image understanding. Methods that were originally developed in the research field of computer vision will be presented and their potential for a transition to high-resolution SAR images will be discussed. We will exemplify these methods through their application to tasks related to topographic mapping and monitoring.