University of Pavia

Ph.D. School of Electrical and Electronics Engineering and Computer Science

SEMINAR

Robust Wide Baseline Pose Estimation from Video

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Aula A3

Robust wide baseline pose estimation is an essential step in the deployment of smart camera networks. In this work, we highlight some current limitations of conventional strategies for relative pose estimation in difficult urban scenes. Then we propose a solution which relies on an adaptive search of corresponding interest points in synchronized video streams which allows us to converge robustly towards a high-quality solution. The experiments are performed using a manually annotated ground truth of a large scale scene exhibiting significant depth and perspective variation, uniform areas, repetitive patterns and homogeneous dynamic elements. This work is helpful for calibrating camera networks in difficult urban scenes, and also for improving prior stereo calibrations based on the scene content.

All the algorithm details and an implementation of the algorithm are already available online: http://hebergement.u-psud.fr/emi/MOHICANS/index.html

Bio: Prof. Emanuel Aldea is working as an assistant professor at Paris Sud University, in the MOSS (Methods and Systems for Signal Processing) group of SATIE. He completed PhD in 2009 at Télécom ParisTech, under the supervision of Isabelle Bloch.
His work draws from the areas of computer vision and machine learning, applied to a variety of problems in image understanding, cartography and 3D reconstruction.

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