



DEPARTAMENTO DE ELECTRÓNICA
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CICLO CONFERENCIAS Y SEMINARIOS

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Sala 1 Dpto. Electrónica

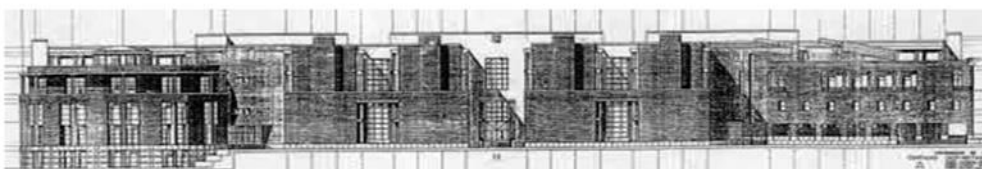
Self-Supervised Depth Completion for Active Stereo Systems

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Active stereo systems are used in many robotic applications that require 3D information. These depth sensors, however, suffer from stereo artefacts and do not provide dense depth estimates. In this talk I will present a self-supervised depth completion method for active stereo systems that predicts accurate dense depth maps. Our method leverages a feature-based visual inertial SLAM system to produce motion estimates and accurate (but sparse) 3D landmarks. The 3D landmarks are used both as model input and as supervision during training. The motion estimates are used in a novel reconstruction loss that relies on a combination of passive and active stereo frames, resulting in significant improvements in textureless areas that are common in indoor environments. I will show some results and conclusions plus a live demo of the depth completion system.

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