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Entropy-based active vision for a humanoid soccer robot.

Summary: In this paper, we show how the estimation of a robot's world model can be improved by actively sensing the environment through considering the current world state estimate through minimizing the entropy of an underlying particle distribution. Being originally computationally expensive, this approach is optimized to become executable in real-time on a robot with limited resources. We demonstrate the approach on a humanoid robot, performing self-localization and ball tracking on a RoboCup soccer field.

doi:10.1007/978-3-642-20217-9_1