Real Autonomy

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Abstract

This talk addresses the issues surrounding the engineering and scientific methodologies required to give a robot real autonomy. Real autonomy is defined in terms of the robot's ability to survive in any environment. It is argued that only by considering genuinely unstructured, unknown and unreliable environments can the path be found to real autonomy. Any lesser consideration will lead to well engineered solutions that result in "niche robots".

It is also argues that autonomy, rather than intelligence, is a suitable yard stick by which to measure general progress in the construction of mobile robots, that an essentially constructivist approach must be taken and that avoiding the practical details of constructing robots jepardises the posibility of achieving real autonomy.

The adoption of a constructivist design methodology need not imply the total rejection of a classical theoretical (scientific) approach. However there are restrictive criteria that must be applied to the methodology adopted in order to maintain real autonomy. This results in a non-objects based approach to design.

Proc. TIMR 97 - Towards Intelligent Mobile Robots, Manchester 1997.
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