Special Issue

Visual Servoing of Mobile Robots

Message from the Guest Editor

Dear colleagues, Visual servoing of robots has been ongoing for quite some time: there are now more than forty years' worth of contributions on the topic, which follow the development of efficient robotic vision systems, improvements in the computational power of the informatic systems, the birth and growth of disciplines like machine learning and AI, and the many hardware and software tools which have contributed the increased efficiency of image processing methods. Improvements in the velocity, complexity, and precision of the images' elaborations, along with the evolution of increasingly efficient big data storage and computational systems, are rapidly expanding the boundaries of the visual servoing field. However, mobile robotic systems, with their autonomous motion capabilities, remain the key field in which visual servoing finds both theoretical and applicative developments. The aim of the present Special Issue is to collect results on classical problems as well as examples of new, advanced visual servoing techniques for mobile robots.

Guest Editor

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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