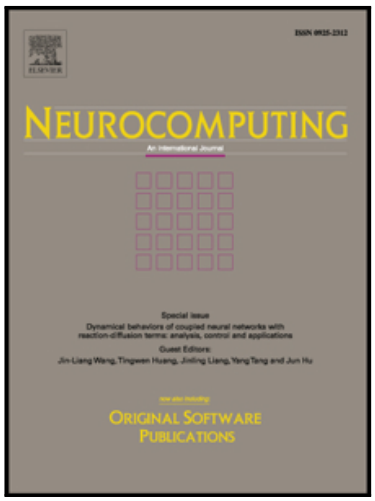

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Skill Based Robot Programming: Assembly, Vision and Workspace Monitoring Skill Interaction

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Abstract

The Skill Based Programming eases the robot program generation, its similarity to human behavior allows non expert operators maintaining, adapting or creating robotic applications. The use of Skills requires different approaches for the interaction between them, especially for sharing information. The presented approach combines the Skill Based Programming using a State Machine for low level robot execution management. With the proposed framework the interaction and communication between skills is improved. The work presented below is focused on the use of Vision Skills and safe Workspace Monitoring, for addressing a real use case where interaction with robot motions (organized as Assembly Skills) is required.

Keywords: robotics, flexibility, skill based programming, state machine, easy programming, vision skills, collaborative robots, workspace monitoring

1. Introduction

Three major trends are currently of high actuality in the industrial sectors: the transformation from mass production to mass customization [1, 2], the requirement of more reconfigurability of the production lines [3, 1], and the need of collaborative robotics for assisting operators [4]. The research

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