RAFU Functions in Robotics and Automation

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Abstract : This paper investigates the implementation of RAFU functions (radical functions) in robotics and automation. Specifically, the main goal is to show how these functions may be useful in lane-keeping control and the lateral control of autonomous machines, vehicles, robots or the like. From the knowledge of several points of a certain route, the RAFU functions are used to achieve the lateral control purpose and maintain the lane-keeping errors within the fixed limits. The stability that these functions provide, their ease of approaching any continuous trajectory and the control of the possible error made on the approximation may be useful in practice.