Keynote Speaker

Intelligent Algorithms and Their Applications in Control Engineering

Shenglin Mu^{a,*}

^aEhime University, Japan

*Corresponding Author: mu.shenglin.du@ehime-u.ac.jp

Abstract

Along with the development of computer science and engineering, the research of Artificial Intelligence (AI) has been progressing rapidly in recent years. Some representative algorithms, such as fuzzy logic, Neural Network (NN), Genetic Algorithms (GA), etc., are introduced into various industrial applications. Especially, owing to excellent features of intelligent algorithms in control engineering applications, they are considered as a promising field of intelligent control, which is expected to play a crucial role in future industry, connecting robotics, mechatronics, informatics etc.

Survey of AI applications in control engineering will be given. To see the effect of using intelligent control methods specifically, some investigations of intelligent control will be introduced based on simulation and experimental results of actuator control (pneumatic actuators, ultrasonic actuators). According to comparisons of results, control performance of intelligent control methods will be introduced. For future development, issues and challenges in industrial applications of intelligent control methods will be discussed.