International Journal of Automation Technology (IJAT)

Call for Papers:

Special Issue on New Technologies for Robotic Manipulators and Their Industrial Applications

Guest Editors:

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The industrial robot is more precisely an "automatically controlled, reprogrammable, multipurpose manipulator, programmable in three or more axes, which can be either fixed in place or mobile" (ISO 8373:2012). According to the International Federation of Robotics, by 2018, more than 400,000 new units were being installed annually, and the global average robot density in the manufacturing industry was 99 robots per 10,000 employees. More than 30% of all installed robots were in the automotive industry, the biggest customer for robots.

Research on modeling, optimal motion control, programming, and efficient trajectory planning has been conducted to give robotic manipulators a wider variety of industrial applications. Owing to their larger workspace as well as greater flexibility, there is also an interest in utilizing industrial robots in contact applications such as machining. However, this is challenging since they are less accurate yet more complex than specialized machinery.

Hence, this special issue covers technical and academic efforts related to new technologies that improve the accuracy and facilitate the implementation of robotic manipulators in industrial applications. Suitable topics may include but are not limited to the following:

* Mechanical and geometrical property modeling and measurement
* Stiffness modeling and measurement
* Dynamic behavior modeling and measurement
* Offline and online compensation methods/strategies
* Path planning methodologies
* Thermal compensation
* Sensor-based robot enhancement
* AI applications in industrial robotics
* Robot programming: Interaction of specialized machinery and industrial manipulators
* Vision-based measurement
* Dynamic feedback control of robots
* Integrated metrology and robot sensors
* Production management with robots

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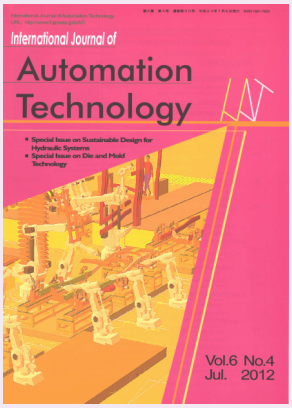

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Number of pages: 8 pages (but no limit) / 8,000 words
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Submission Deadline: ~~January 28, 2021~~ ***Extension!***
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