SPECIAL ISSUE ON SIGNAL COLLECTION, PROCESSING, AND SYSTEM INTEGRATION IN AUTOMATION APPLICATIONS PART 1

PREFACE

With the rapid progress of industrialization in recent years, a wide variety of automation techniques have been developed and applied in industry. For this reason, signal collection, processing, and system integration in automation applications have played a crucial role in industry. This rapid trend has driven progress beyond traditional mechanization. Furthermore, Industry 4.0 techniques are bringing modern engineering into a new era. Therefore, more complex problems, such as those in automatization, robotics, mechatronics, measurement, and control systems, can be resolved by using signal collection and processing algorithms more efficiently.

All the papers in this issue are based on novel methodologies and implementations, creative and innovative automation systems, and integrated engineering associated with crucial fields. There are four major topics focused on: 1. Mechanical systems, 2. AI applications, 3. Image processing, and 4. Signal measurement. Many valuable solutions have been presented covering both theory and applications in the field of sensors and materials.

As a guest editor, I would like to congratulate all authors for their outstanding research outcomes and their significant contributions. I am also grateful to Ms. Naoko Makino for her assistance in the publication of this special issue.

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