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Technological Innovation for Value Creation

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Preface

Technological Innovation for Value Creation

This proceeding book centered on research results produced in doctoral programs brings the importance of society-valued technologies under the spotlight. Such technologies can leverage economic transformation, create value in the society and ultimately improve individuals' lives. As doctoral programs in science and engineering are important sources of innovative ideas and techniques that might lead to new products, technological innovation, and even new organizational and governance models with strong economic and social impact, it is important that the analysis of the value creation potential of these results receives special attention.

Typically PhD students are not experienced researchers, but rather in the process of learning how to do research. Nevertheless, observation of worldwide publications shows that a high number of technologically innovative ideas are produced in the early careers of researchers. From the combination of the eagerness to try new approaches and directions of young doctoral students with the experience and broad knowledge of their supervisors, an important pool of innovation potential emerges. The DoCEIS series of doctoral conferences on Computing, Electrical and Industrial Systems aim at creating a space for sharing and discussing ideas and results from doctoral research in these inter-related areas of engineering. Innovative ideas and hypothesis can be better enhanced when presented and discussed in an encouraging and open environment. DoCEIS aims to provide such environment, releasing PhD students from the pressure of presenting their propositions in more formal contexts.

The third edition of DoCEIS, which is sponsored by SOCOLNET, IFIP and IEEE Industrial Electronics Society, attracted a considerable number of paper submissions from a large number of PhD students (and their supervisors) from 20 countries. This book comprises the works selected by the International Program Committee for inclusion in the main program and covers a wide spectrum of topics, ranging from collaborative enterprise networks to microelectronics. Thus, novel results and ongoing research are presented, illustrated, and discussed in areas such as:

- Collaborative Systems
- Service Orientation
- Knowledge and Content Management
- Human Interaction
- Petri Nets

- Smart and Robotic Systems
- Sensorial Perception and Signal Processing
- Energy systems and Smart Grid
- Electronics and Telecommunications

As a gluing element, all authors were asked to explicitly indicate the (potential) contribution of their work to value creation.

Additionally, an associated workshop contributed a number of papers addressing various aspects of Data Analysis and Modelling Retina in Health and Disease.

We expect that this book will provide readers with an inspiring set of promising ideas, presented in a multi-disciplinary context, and that by their diversity these results can trigger and motivate richer research and development directions.

We would like to thank all the authors for their contributions. We also appreciate the dedication of the DoCEIS Program Committee members who both helped with the selection of articles and contributed with valuable comments to improve their quality.

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