Proceedings

2018 5th International Conference on Information Technology, Computer and Electrical Engineering (ICITACEE 2018)

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Editor:
Mochammad Facta
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Proceedings

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Greetings from the General Chair

In the name of Allah, Most Gracious, Most Merciful

We would like to welcome our colleagues to attend the 5th International Conference on Information Technology, Computer, and Electrical Engineering 2018 (ICITACEE 2018) in Semarang – Indonesia.

The 5th ICITACEE 2018 has a theme “Green Technology and Smart Environment for a Connected World”. This forum provides researchers, academicians, professionals, and students from various engineering fields and with multidisciplinary working or interested in the field of power systems, telecommunication, vehicular technologies, controls, information and computer technologies as well as Green Applications and Interdisciplinary Topic to share and to show their works and novelty to the world.

I would like to express my hearty gratitude to the keynote speakers and all participants for coming, sharing and presenting your experiences in this great conference. There are more than 130 papers submitted to ICITACEE 2018 from 8 countries of 6 continents, however only 74 manuscripts as high-quality selected papers are recommended to be accepted and presented in this conference, so it is in line with our aim to improve the quality of manuscripts to be exclusively included in the proceeding and suggested to well-known citation machine i.e. IEEEExplore. We are thankful to all the international reviewers and steering committee for their valuable work.

Without our outstanding committee, this prestigious conference would have been impossible, so I would like to extend my sincere gratitude to all committees and volunteers from Department of Electrical Engineering and Department of Computer Engineering, Diponegoro University for providing me with much needed support, advice, and assistance on all aspects of the conference. A special thanks for IEEE Indonesia Section for the technical co-sponsorship during the conference. We do hope that this event will strengthen the collaboration among us now and in the future.

We wish you all find opportunity to get fruitful and rewarding discussion and new intellectual inspiration toward friendships and mutual collaborative network.

We wish you a happy conference and success in Semarang.

Aghus Sofwan
General Chair
2018 5th International Conference on Information Technology, Computer and Electrical Engineering (ICITACEE)
Foreword From Dean of Faculty of Engineering
Diponegoro University, Semarang-Indonesia

It is our great pleasure to join and to welcome all participants of the 5th International Conference on Information Technology, Computer, and Electrical Engineering 2018 (ICITACEE 2018) in Semarang – Indonesia.

The aims of the conference are to obtain and to extend the knowledge of the recent issues, opinions, bright ideas about the development of a comprehensive green technology. ICITACEE 2018 invites the scholars and encourages the researchers to submit high quality manuscripts and share their findings and experiences in this conference. May through this event there will be enlightens and mutual collaborative networks to various topics such as power systems, telecommunication, vehicular technologies, controls, information and computer technologies and as well as other field that corresponds, such as green application and interdisciplinary topics for improving the quality and benefits of the research.

It is a great pleasure to welcome all the participants of this conference in Semarang. I also would like to welcome several members from Universiti Teknologi Malaysia, Universiti Teknikal Malaysia, Universiti Kebangsaan Malaysia, American University of Middle East, Queen Mary University of London, National Taiwan University of Science and Technology, Diponegoro University, Bandung Institute of Technology, Gadjah Mada University, and so on.

I do hope that this conference to be a valuable forum to encourage and embrace cooperative and interdisciplinary research among the engineers and scientists for bringing better life.

My heartfelt gratitude is dedicated to Organizing Committee members and the staff of Department of Electrical Engineering and Department of Computer Engineering of Faculty of Engineering, Diponegoro University for their generous effort and contribution toward the success of The 5th ICITACEE 2018

I hope that the conference will be stimulating and memorable for you. So, enjoy your time in Semarang

Ir. M. Agung Wibowo, MM, MSc, PhD
Dean of Faculty of Engineering
Diponegoro University, Semarang-Indonesia

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Foreword From Chief of Department of Electrical Engineering
Diponegoro University, Semarang-Indonesia

In the Name of Allah, the Most Gracious, Most Merciful.
All the praises and thanks to Allah.
Welcome, all of the participants and keynote speakers to the International Conference on Information Technology, Computer, and Electrical Engineering (ICITACEE 2018) in Semarang. This is the fifth international conference held together by Electrical Engineering Department and Computer Engineering Department of Engineering Faculty, Diponegoro University. I would like to appreciate the measureless work in this conference as a collaborative effort among the Electrical Engineering Department, Computer Engineering Department, IEEE Student Branch of Diponegoro University, and IEEE Indonesia Section. I would like to express my deep appreciation to Technical Program Committee, Organizing Committee members, staffs and students of Department of Electrical Engineering and Department of Computer Engineering for their effort and support. I would like to extend our appreciation to Rector of Diponegoro University and Dean of Engineering Faculty.
I hope that this conference will be a prestige forum to communicate and sharing the findings, and precious researches among experts in the field of computer engineering, information technology, and electrical engineering. We are extremely happy that this event will give the contribution to the global development of Computer Engineering, Information Technology, and Electrical Engineering.

Dr. Wahyudi, S.T., M.T.
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