

Preface

This series in Electrical Engineering is an abridged form of selected papers originally submitted to the 36th National Systems Conference on Recent Advancements in System Modelling Applications (NSC 2012), held between 6 and 8 December 2012 at Annamalai University, Annamalai Nagar, Tamil Nadu, India. The conference is part of the Silver Jubilee celebrations of the Department of Electronics and Instrumentation Engineering attached to the Faculty of Engineering and Technology, Annamalai University.

This conference is an annual event of the System Society of India (SSI) held at national level to epitomise the latest technological advances in system modelling. The objective of the conference is to bring together researchers and developers from academia and industry working in the areas of engineering sciences, life sciences, agricultural sciences and management sciences, with a special focus on system modelling.

A systems approach to problem solving requires an ingenious perspective to deduce the important system variables and establish the relationships between them. The key to understanding thereafter evolves from modelling the system, and realising how the variables change over time as the problem parameters are changed. The system dynamics that originate as a function of the variations in parameters serve to evolve measures to archive the desired response.

The goal of these lecture notes is to describe the central concepts in system modelling and offer an insight into their applications. The findings in the domain of computer science include areas of image and speech signal processing, intelligent optimisation techniques and communication networks. The research progress in the discipline of electrical science is pivoted towards power electronics and drives. The problems that surface in computational biology and its modelling techniques are addressed in the biological science. A host of methodologies suggested tackling issues that pertain to immunology beehives the paramedical science.

The contributions peer reviewed by the programme committee members/technical committee reviewers are included in the lecture series. The reviews echoed a focus centred on originality, quality and relevance to the theme of the conference.

A number of parallel sessions with a view to accommodate the wide scope of the central theme and provide an interactive platform for the participants to share and debate their research findings highlighted the proceedings.

The editors express their thanks to the authors for submitting their research papers to the conference, the program committee/technical review committee and the committee members for their dedicated efforts. The editors profoundly thank the authorities of the Annamalai University for providing the infrastructural support to this conference.

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