

Preface

Overview and Goals

Machine learning and signal processing have been prevalent in every other research challenge. Today, various acquisition devices collect and generate massive amounts of data. Processing and analyzing such data is usually beyond our mental capacities. We resort to automated processing and analysis techniques to retrieve information from this data deluge. Several researchers across the globe from academics, industry and government agencies are working in signal processing and machine learning related problems. It is therefore important to understand the state-of-the-art approaches in related research areas. The primary goal of this book is to present some recent advances in these areas.

Organization and Features

The book includes four invited chapters from Dr. Ajay Kumar, Dr. Vidit Jain, Dr. Amit Kale, and Dr. Girish Chandra along with 10 chapters on different problems of machine intelligence and signal processing from researchers across the world. The four invited chapters are from the speakers of the First Winter School on Machine Intelligence and Signal Processing and the 10 chapters are peer-reviewed and selected papers of the workshop. The chapters cover theoretical aspects such as the chapter on Greedy Algorithms for Non-linear Sparse Recovery by Kavya Gupta and Angshul Majumdar. It also includes application studies in different application areas such as the chapters on retinal blood vessel classification by Rajan, Ballerini, Trucco and MacGillivray, and SMS classification by Goswami, Singh and Vatsa. The authors who have contributed in this book are from academia and corporates of different countries including Hong Kong, India, Italy, and the United Kingdom.

Target Audiences

The target audience of this book are individuals who are interested in advancements in different areas of machine intelligence and signal processing. Researchers in both industry and academia should find it useful for its breadth of topics and applications, such as medical image analysis, biometrics, and text classification.

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