

Extracting Mfcc Features For Emotion Recognition From

This book constitutes the refereed proceedings of the 6th International Workshop on Ambient Assisted Living, IWAAL 2014, held in Belfast, UK, in December 2014. The 42 full papers presented with 12 papers of the workshop WAGER 2014 and 10 papers of a special session HTA were carefully reviewed and selected from numerous submissions. The focus of the papers is on following topics: ADL detection, recognition, classification; behavioural changes, coaching and education; AAL design and technical evaluation; expression, mood and speech recognition; health monitoring, risk prediction and assessment; localization; and user preferences, usability, AAL acceptance and adoption.

In this brief, the authors discuss recently explored spectral (sub-segmental and pitch synchronous) and prosodic (global and local features at word and syllable levels in different parts of the utterance) features for discerning emotions in a robust manner. The authors also delve into the complementary evidences obtained from excitation source, vocal tract system and prosodic features for the purpose of enhancing emotion recognition performance. Features based on speaking rate characteristics are explored with the help of multi-stage and hybrid models for further improving emotion recognition performance. Proposed spectral and prosodic features are evaluated on real life emotional speech corpus.

Providing a complete review of existing work in music emotion developed in psychology and engineering, Music Emotion Recognition explains how to account for the subjective nature of emotion perception in the development of automatic music emotion recognition (MER) systems. Among the first publications dedicated to automatic MER, it begins with

Volume 1 discusses various machine learning & cognitive science approaches, presenting high-throughput research by experts in this area. Bringing together machine learning, cognitive science and other aspects of artificial intelligence to help provide a roadmap for future research on intelligent systems, the book is a valuable reference resource for students, researchers and industry practitioners wanting to keep abreast of recent developments in this dynamic, exciting and profitable research field.

Volume 2 provides a systematic and comprehensive overview of machine learning with cognitive science methods and technologies which have played an important role at the core of practical solutions for a wide scope of tasks between handheld apps, industrial process control, autonomous vehicles, environmental policies, life sciences, playing computer games, computational theory, and engineering development. The chapters in this book focus on readers interested in machine learning, cognitive and neuro-inspired computational systems theories, mechanisms, and architecture, which underline human and animal behaviour, and their application to conscious and intelligent systems. In the current version, it focuses on the successful implementation and step-by-step explanation of practical applications of the domain. It also offers a wide range of inspiring and interesting cutting-edge contributions to applications of machine learning and cognitive science such as healthcare products, medical electronics, and gaming. Overall, these two volumes provide valuable information on effective, cutting-edge techniques and approaches for students, researchers, practitioners, and academicians working in the field of AI, neural network, machine

learning, and cognitive science. Furthermore, the purpose of this book is to address the interests of a broad spectrum of practitioners, students, and researchers, who are interested in applying machine learning and cognitive science methods in their respective domains.

The book presents high quality research work in cutting edge technologies and most-happening areas of computational intelligence and data engineering. It contains selected papers presented at International Conference on Computational Intelligence and Data Engineering (ICCIDE 2017). The conference was conceived as a forum for presenting and exchanging ideas and results of the researchers from academia and industry onto a common platform and help them develop a comprehensive understanding of the challenges of technological advancements from different viewpoints. This book will help in fostering a healthy and vibrant relationship between academia and industry. The topics of the conference include, but are not limited to collective intelligence, intelligent transportation systems, fuzzy systems, Bayesian network, ant colony optimization, data privacy and security, data mining, data warehousing, big data analytics, cloud computing, natural language processing, swarm intelligence, and speech processing.

This book features high-quality research papers presented at the 2nd International Conference on Intelligent Computing and Advances in Communication (ICAC 2019), held at Siksha 'O' Anusandhan Deemed to be University, Bhubaneswar, Odisha, India, in November 2019. Covering a wide variety of topics, including management of clean and smart energy systems and environmental challenges, it is a valuable resource for researchers and practicing engineers working in various fields of renewable energy generation, and clean and smart energy management.

The three-volume set of LNCS 12532, 12533, and 12534 constitutes the proceedings of the 27th International Conference on Neural Information Processing, ICONIP 2020, held in Bangkok, Thailand, in November 2020. Due to COVID-19 pandemic the conference was held virtually. The 187 full papers presented were carefully reviewed and selected from 618 submissions. The papers address the emerging topics of theoretical research, empirical studies, and applications of neural information processing techniques across different domains. The first volume, LNCS 12532, is organized in topical sections on human-computer interaction; image processing and computer vision; natural language processing.

This book constitutes the refereed post-conference proceedings of the 19th International Conference on Information Security, ISSA 2020, which was supposed to be held in Pretoria, South Africa, in August 2020, but it was held virtually due to the COVID-19 pandemic. The 10 revised full papers presented were carefully reviewed and selected from 33 submissions. The papers deal with topics such as authentication; access control; digital (cyber) forensics; cyber security; mobile and wireless security; privacy-preserving protocols; authorization; trust frameworks; security requirements; formal security models; malware and its mitigation; intrusion detection systems; social engineering; operating systems security; browser security; denial-of-service attacks; vulnerability management; file system security; firewalls; Web protocol security; digital rights management; and distributed systems security.

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The 3 volume-set LNCS 11566, 11567 + 11568 constitutes the refereed proceedings of the Human Computer Interaction thematic area of the 21st International Conference on Human-Computer Interaction, HCII 2019, which took place in Orlando, Florida, USA, in July 2019. A total of 1274 papers and 209 posters have been accepted for publication in the HCII 2019 proceedings from a total of 5029 submissions. The 125 papers included in this HCI 2019 proceedings were organized in topical sections as follows: Part I: design and evaluation methods and tools; redefining the human in HCI; emotional design, Kansei and aesthetics in HCI; and narrative, storytelling, discourse and dialogue. Part II: mobile interaction; facial expressions and emotions recognition; eye-gaze, gesture and motion-based interaction; and interaction in virtual and augmented reality. Part III: design for social challenges; design for culture and entertainment; design for intelligent urban environments; and design and evaluation case studies.

This book constitutes the proceedings of the 15th International Conference on Advanced Data Mining and Applications, ADMA 2019, held in Dalian, China in November 2019. The 39 full papers presented together with 26 short papers and 2 demo papers were carefully reviewed and selected from 170 submissions. The papers were organized in topical sections named: Data Mining Foundations; Classification and Clustering Methods; Recommender Systems; Social Network and Social Media; Behavior Modeling and User Profiling; Text and Multimedia Mining; Spatial-Temporal Data; Medical and Healthcare Data/Decision Analytics; and Other Applications.

This book presents part of the iM3F 2020 proceedings from the Mechatronics track. It highlights key challenges and recent trends in mechatronics engineering and technology that are non-trivial in the age of Industry 4.0. It discusses traditional as well as modern solutions that are employed in the multitude spectra of mechatronics-based applications. The readers are expected to gain an insightful view on the current trends, issues, mitigating factors as well as solutions from this book.

This book comprises the select proceedings of the ETAERE 2016 conference. The book aims to shed light on different systems or machines along with their complex operation, behaviors, and linear–nonlinear relationship in different environments. It covers problems of multivariable control systems and provides the necessary background for performing research in the field of control and automation. Aimed at helping readers understand the classical and modern design of different intelligent automated systems, the book presents coverage on the control of linear and nonlinear systems, intelligent systems, stochastic control, knowledge-based systems applications, fault diagnosis and tolerant control, real-time control applications, etc. The contents of this volume will prove useful to researchers and professionals alike.

This book presents an overview of how machine learning and data mining techniques are used for tracking and preventing diseases. It covers several aspects such as stress level identification of a person from his/her speech, automatic diagnosis of disease from X-ray images, intelligent diagnosis of Glaucoma from clinical eye examination data, prediction of protein-coding genes from big genome data, disease detection through microscopic analysis of blood cells, information retrieval from electronic medical record using named entity recognition approaches, and prediction of drug-target interactions. The book is suitable for computer scientists having a bachelor degree in computer science. The book is an ideal resource as a reference book for teaching

a graduate course on AI for Medicine or AI for Health care. Researchers working in the multidisciplinary areas use this book to discover the current developments. Besides its use in academia, this book provides enough details about the state-of-the-art algorithms addressing various biomedical domains, so that it could be used by industry practitioners who want to implement AI techniques to analyze the diseases. Medical institutions use this book as reference material and give tutorials to medical experts on how the advanced AI and ML techniques contribute to the diagnosis and prediction of the diseases.

This book constitutes the refereed proceedings of the International Conference on Brain Informatics, BI 2017, held in Beijing, China, in November 2017. The 31 revised full papers were carefully reviewed and selected from 64 submissions. BI addresses the computational, cognitive, physiological, biological, physical, ecological and social perspectives of brain informatics, as well as topics related to mental health and well-being.

The three volume set LNICST 84 - LNICST 86 constitute the refereed proceedings of the Second International Conference on Computer Science and Information Technology, CCSIT 2012, held in Bangalore, India, in January 2012. The 70 revised full papers presented in this volume were carefully reviewed and selected from numerous submissions and address all major fields of the Computer Science and Information Technology in theoretical, methodological, and practical or applicative aspects. The papers feature cutting-edge development and current research in computer science and engineering.

This volume constitutes the refereed proceedings of the Fourth International Conference on Contemporary Computing, IC3 2010, held in Noida, India, in August 2011. The 58 revised full papers presented were carefully reviewed and selected from 175 submissions.

This book presents state of art research in speech emotion recognition. Readers are first presented with basic research and applications – gradually more advance information is provided, giving readers comprehensive guidance for classify emotions through speech. Simulated databases are used and results extensively compared, with the features and the algorithms implemented using MATLAB. Various emotion recognition models like Linear Discriminant Analysis (LDA), Regularized Discriminant Analysis (RDA), Support Vector Machines (SVM) and K-Nearest neighbor (KNN) and are explored in detail using prosody and spectral features, and feature fusion techniques.

Affective information processing assigns computers the human-like capabilities of observation, interpretation and generation of affect features. It is an important topic for harmonious human-computer interaction, by increasing the quality of human-computer communication and improving the intelligence of the computer. Discussing state of art of the research in affective information processing, this book summarises key technologies researched, such as facial expression recognition, face animation, emotional speech synthesis, intelligent agent, and virtual reality. The detailed

discussion covers a wide range of topics including hot topics which look to challenge and improve current research work. Written to provide an opportunity for scientists, engineers and graduate students to learn problems, solutions and technologies in the topic area, this book will provide insight and prove a valuable reference tool.

This Edited Volume gathers a selection of refereed and revised papers originally presented at the Third International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'17), held on September 13–16, 2017 in Manipal, India. The papers offer stimulating insights into biometrics, digital watermarking, recognition systems, image and video processing, signal and speech processing, pattern recognition, machine learning and knowledge-based systems. Taken together, they offer a valuable resource for all researchers and scientists engaged in the various fields of signal processing and related areas.

Spread in 133 articles divided in 20 sections the present treatises broadly discusses: Part 1: Image Processing Part 2: Radar and Satellite Image Processing Part 3: Image Filtering Part 4: Content Based Image Retrieval Part 5: Color Image Processing and Video Processing Part 6: Medical Image Processing Part 7: Biometric Part 8: Network Part 9: Mobile Computing Part 10: Pattern Recognition Part 11: Pattern Classification Part 12: Genetic Algorithm Part 13: Data Warehousing and Mining Part 14: Embedded System Part 15: Wavelet Part 16: Signal Processing Part 17: Neural Network Part 18: Nanotechnology and Quantum Computing Part 19: Image Analysis Part 20: Human Computer Interaction

This book presents important research findings and recent innovations in the field of machine learning and signal processing. A wide range of topics relating to machine learning and signal processing techniques and their applications are addressed in order to provide both researchers and practitioners with a valuable resource documenting the latest advances and trends. The book comprises a careful selection of the papers submitted to the 2015 International Conference on Machine Learning and Signal Processing (MALSIP 2015), which was held on 15–17 December 2015 in Ho Chi Minh City, Vietnam with the aim of offering researchers, academicians, and practitioners an ideal opportunity to disseminate their findings and achievements. All of the included contributions were chosen by expert peer reviewers from across the world on the basis of their interest to the community. In addition to presenting the latest in design, development, and research, the book provides access to numerous new algorithms for machine learning and signal processing for engineering problems.

This volume is the third part of a four-volume set (CCIS 190, CCIS 191, CCIS 192, CCIS 193), which constitutes the refereed proceedings of the First International Conference on Computing and Communications, ACC 2011, held in Kochi, India, in July 2011. The 70 revised full papers presented in this volume were carefully reviewed and selected from a large number of

submissions. The papers are organized in topical sections on security, trust and privacy; sensor networks; signal and image processing; soft computing techniques; system software; vehicular communications networks.

The International Conference on Convergence of Technology invite you to attend the event to gather, network, and exchange information on the different research areas from Computer Engineering, Electronics & Communication Engg , Electrical Engineering, and many more We expect to welcome more than 1000 people from different regions of countries to our city for an event focused on different areas of research It will help you define and refocus you on your value stream so you can remove that which doesn t add value and more effectively plan for whats around the corner The scope of conference papers and exhibits include but not limited to the following areas The International Conference for Convergence of Technology is excited to host this event, and is confident that it will exceed your expectations on every level Be sure to visit The I2CT 2018 invites original and unpublished paper from different field of Engineering & Technology

The discovery of the Fractional Fourier Transform and its role in optics and data management provides an elegant mathematical framework within which to discuss diffraction and other fundamental aspects of optical systems. This book explains how the fractional Fourier transform has allowed the generalization of the Fourier transform and the notion of the frequency transform. It will serve as the standard reference on Fourier transforms for many years to come.

This book constitutes the proceedings of the Second International Conference on Pattern Recognition and Artificial Intelligence, ICPRAI 2020, which took place in Zhongshan, China, in October 2020. The 49 full and 14 short papers presented were carefully reviewed and selected for inclusion in the book. The papers were organized in topical sections as follows: handwriting and text processing; features and classifiers; deep learning; computer vision and image processing; medical imaging and applications; and forensic studies and medical diagnosis.

The book presents a remarkable collection of chapters covering a wide range of topics in the areas of intelligent systems and artificial intelligence, and their real-world applications. It gathers the proceedings of the Intelligent Systems Conference 2019, which attracted a total of 546 submissions from pioneering researchers, scientists, industrial engineers, and students from all around the world. These submissions underwent a double-blind peer-review process, after which 190 were selected for inclusion in these proceedings. As intelligent systems continue to replace and sometimes outperform human intelligence in decision-making processes, they have made it possible to tackle a host of problems more effectively. This branching out of computational intelligence in several directions and use of intelligent systems in everyday applications have created the need for an international conference as a venue for reporting on the latest innovations and trends. This book collects both theory and application based chapters on virtually all aspects of artificial intelligence; presenting state-of-the-art intelligent methods and techniques for solving real-world problems, along with a vision for future research, it represents a unique and valuable asset.

CSIE 2011 is an international scientific Congress for distinguished scholars engaged in scientific, engineering and technological research, dedicated to build a platform for exploring and discussing the future of Computer Science and Information Engineering

with existing and potential application scenarios. The congress has been held twice, in Los Angeles, USA for the first and in Changchun, China for the second time, each of which attracted a large number of researchers from all over the world. The congress turns out to develop a spirit of cooperation that leads to new friendship for addressing a wide variety of ongoing problems in this vibrant area of technology and fostering more collaboration over the world. The congress, CSIE 2011, received 2483 full paper and abstract submissions from 27 countries and regions over the world. Through a rigorous peer review process, all submissions were refereed based on their quality of content, level of innovation, significance, originality and legibility. 688 papers have been accepted for the international congress proceedings ultimately.

This volume presents the contributions of the 6th International Conference on Advancements of Medicine and Health Care through Technology – MediTech 2018, held between 17 – 20 October 2018 in Cluj-Napoca, Romania. The papers of this Proceedings volume present new developments in : - Health Care Technology - Medical Devices, Measurement and Instrumentation - Medical Imaging, Image and Signal Processing - Modeling and Simulation - Molecular Bioengineering - Biomechanics

This book features selected high-quality research papers presented at the International Conference on Machine Intelligence and Signal Processing (MISP 2019), held at the Indian Institute of Technology, Allahabad, India, on September 7–10, 2019. The book covers the latest advances in the fields of machine learning, big data analytics, signal processing, computational learning theory, and their real-time applications. The topics covered include support vector machines (SVM) and variants like least-squares SVM (LS-SVM) and twin SVM (TWSVM), extreme learning machine (ELM), artificial neural network (ANN), and other areas in machine learning. Further, it discusses the real-time challenges involved in processing big data and adapting the algorithms dynamically to improve the computational efficiency. Lastly, it describes recent developments in processing signals, for instance, signals generated from IoT devices, smart systems, speech, and videos and addresses biomedical signal processing: electrocardiogram (ECG) and electroencephalogram (EEG).

In this book, a novel approach that combines speech-based emotion recognition with adaptive human-computer dialogue modeling is described. With the robust recognition of emotions from speech signals as their goal, the authors analyze the effectiveness of using a plain emotion recognizer, a speech-emotion recognizer combining speech and emotion recognition, and multiple speech-emotion recognizers at the same time. The semi-stochastic dialogue model employed relates user emotion management to the corresponding dialogue interaction history and allows the device to adapt itself to the context, including altering the stylistic realization of its speech. This comprehensive volume begins by introducing spoken language dialogue systems and providing an overview of human emotions, theories, categorization and emotional speech. It moves on to cover the adaptive semi-stochastic dialogue model and the basic concepts of speech-

emotion recognition. Finally, the authors show how speech-emotion recognizers can be optimized, and how an adaptive dialogue manager can be implemented. The book, with its novel methods to perform robust speech-based emotion recognition at low complexity, will be of interest to a variety of readers involved in human-computer interaction.

This volume comprises the proceedings of the International Conference on Computational Intelligence 2015 (ICCI15). This book aims to bring together work from leading academicians, scientists, researchers and research scholars from across the globe on all aspects of computational intelligence. The work is composed mainly of original and unpublished results of conceptual, constructive, empirical, experimental, or theoretical work in all areas of computational intelligence. Specifically, the major topics covered include classical computational intelligence models and artificial intelligence, neural networks and deep learning, evolutionary swarm and particle algorithms, hybrid systems optimization, constraint programming, human-machine interaction, computational intelligence for the web analytics, robotics, computational neurosciences, neurodynamics, bioinspired and biomorphic algorithms, cross disciplinary topics and applications. The contents of this volume will be of use to researchers and professionals alike.

This volume includes 73 papers presented at ICTIS 2017: Second International Conference on Information and Communication Technology for Intelligent Systems. The conference was held on 25th and 26th March 2017, in Ahmedabad, India and organized jointly by the Associated Chambers of Commerce and Industry of India (ASSOCHAM) Gujarat Chapter, the G R Foundation, the Association of Computer Machinery, Ahmedabad Chapter and supported by the Computer Society of India Division IV – Communication and Division V – Education and Research. The papers featured mainly focus on information and communications technology (ICT) and its applications in intelligent computing, cloud storage, data mining and software analysis. The fundamentals of various data analytics and algorithms discussed are useful to researchers in the field.

This volume contains 87 papers presented at FICTA 2014: Third International Conference on Frontiers in Intelligent Computing: Theory and Applications. The conference was held during 14-15, November, 2014 at Bhubaneswar, Odisha, India. This volume contains papers mainly focused on Network and Information Security, Grid Computing and Cloud Computing, Cyber Security and Digital Forensics, Computer Vision, Signal, Image & Video Processing, Software Engineering in Multidisciplinary Domains and Ad-hoc and Wireless Sensor Networks.

“Emotion Recognition Using Speech Features” provides coverage of emotion-specific features present in speech. The author also discusses suitable models for capturing emotion-specific information for distinguishing different emotions. The content of this book is important for designing and developing natural and sophisticated speech systems. In this Brief, Drs. Rao and Koolagudi lead a discussion of how emotion-specific information is embedded in speech and how to

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acquire emotion-specific knowledge using appropriate statistical models. Additionally, the authors provide information about exploiting multiple evidences derived from various features and models. The acquired emotion-specific knowledge is useful for synthesizing emotions. Features includes discussion of:

- Global and local prosodic features at syllable, word and phrase levels, helpful for capturing emotion-discriminative information;
- Exploiting complementary evidences obtained from excitation sources, vocal tract systems and prosodic features in order to enhance the emotion recognition performance;
- Proposed multi-stage and hybrid models for improving the emotion recognition performance.

This brief is for researchers working in areas related to speech-based products such as mobile phone manufacturing companies, automobile companies, and entertainment products as well as researchers involved in basic and applied speech processing research.

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