

Automatic Prediction Of The Severity Of Bugs Using Stack

Information Processing is a key area of research and development and the symposium presented state-of-the-art reports on some of the areas which are of relevance in automatic control: fault diagnosis and system reliability. Papers also covered the role of expert systems and other knowledge based systems, which are needed, to cope with the vast quantities of data generated by large scale systems. This volume should be considered essential reading for anyone involved in this rapidly developing area.

This book highlights the latest advances in the application of artificial intelligence and data science in health care and medicine. Featuring selected papers from the 2020 Health Intelligence Workshop, held as part of the Association for the Advancement of Artificial Intelligence (AAAI) Annual Conference, it offers an overview of the issues, challenges, and opportunities in the field, along with the latest research findings. Discussing a wide range of practical applications, it makes the emerging topics of digital health and explainable AI in health care and medicine accessible to a broad readership. The availability of explainable and interpretable models is a first step toward building a culture of transparency and accountability in health care. As such, this book provides information for scientists, researchers, students, industry professionals, public health agencies, and NGOs interested in the theory and practice of computational models of public and personalized health intelligence.

This book includes selected papers presented at the 3rd International Conference on Data Engineering and Communication Technology (ICDECT-2K19), held at Stanley College of Engineering and Technology for Women, Hyderabad, from 15 to 16 March 2019. It features advanced, multidisciplinary research towards the design of smart computing, information systems, and electronic systems. It also focuses on various innovation paradigms in system knowledge, intelligence, and sustainability which can be applied to provide viable solutions to diverse problems related to society, the environment, and industry.

The six volumes LNCS 11619-11624 constitute the refereed proceedings of the 19th International Conference on Computational Science and Its Applications, ICCSA 2019, held in Saint Petersburg, Russia, in July 2019. The 64 full papers, 10 short papers and 259 workshop papers presented were carefully reviewed and selected from numerous submissions. The 64 full papers are organized in the following five general tracks: computational methods, algorithms and scientific applications; high performance computing and networks; geometric modeling, graphics and visualization; advanced and emerging applications; and information systems and technologies. The 259 workshop papers were presented at 33 workshops in various areas of computational sciences, ranging from computational science technologies to specific areas of computational sciences, such as software engineering, security, artificial intelligence and blockchain technologies.

17th International Conference, Trieste, Italy, July 3-6, 2017, Proceedings, Part V

Advanced Information Processing in Automatic Control (AIPAC'89)

Post-traumatic Stress Disorder Severity Prediction on Web-based Trauma Recovery Treatments Through Electrodermal Activity Measurements

Speech and Computer

ICDAM 2021

Data Engineering and Communication Technology

Automatic Supervision in Manufacturing

A timely exploration of the impact of global change on the emergence, reemergence, and control of vector-borne and zoonotic viral infections From massively destructive "superstorms" to rapidly rising sealevels, the world media is abuzz with talk of the threats to civilization posed by global warming. But one hazard that is rarely discussed is the dramatic rise in the number and magnitude of tropical virus outbreaks among human populations. One need only consider recent developments, such as the spread of chikungunya across southern Europe and dengue in Singapore, Brazil, and the southern United States, to appreciate the seriousness of that threat. Representing a major addition to the world literature on the subject, Viral Infections and Global Change explores trends of paramount concern globally, regarding the emergence and reemergence of vector-borne and zoonotic viruses. It also provides up-to-date coverage of both the clinical aspects and basic science behind an array of specific emerging and reemerging infections, including everything from West Nile fever and Rift Valley fever to zoonotic hepatitis E and human bunyavirus. Important topics covered include: Epidemiology, molecular pathogenesis, and evolutionary mechanisms Host-pathogen interactions in an array of viral infections The impact of climate change on historical viral outbreaks The roles of socioeconomics, human behavior, and animal and human migrations The growing prevalence of drug and pesticide resistance The introduction of microbes and vectors through increased transboundary travel Spillover transmissions and the emergence of viral outbreaks Detecting and responding to threats from bioterrorism and emerging viral infections Predictive modeling for emerging viral infections Viral Infections and Global Change is an indispensable resource for research scientists, epidemiologists, and medical and veterinary students working in ecology, environmental management, climatology, neurovirology, virology, and infectious disease.

This book is a collection of best selected research papers presented at the International Conference on Communication and Artificial Intelligence (ICCAI 2020), held in the Department of Electronics & Communication Engineering, GLA University, Mathura, India, during 17-18 September 2020. The primary focus of the book is on the research information related to artificial intelligence, networks, and smart systems applied in the areas of industries, government sectors, and educational institutions worldwide. Diverse themes with a central idea of sustainable networking solutions are discussed in the book. The book presents innovative work by leading academics, researchers, and experts from industry.

This book constitutes the thoroughly refereed post-workshop proceedings of the International Workshop on Brain Lesion, as well as the challenges on Brain Tumor Segmentation (BRATS), Ischemic Stroke Lesion Image Segmentation (ISLES), and the Mild Traumatic Brain Injury Outcome Prediction (mTOP), held in Athens, October 17, 2016, in conjunction with the International Conference on Medical Image Computing and Computer-Assisted Intervention, MICCAI 2016. The 26 papers presented in this volume were carefully reviewed. They present the latest advances in segmentation, disease prognosis and other applications to the clinical context.

This book addresses the difficult task of integrating computational techniques with virtual reality and healthcare. It discusses the use of virtual reality in various areas, such as healthcare, cognitive and behavioural training, understanding mathematical graphs,

human-computer interaction, fluid dynamics in healthcare industries, accurate real-time simulation, and healthcare diagnostics. Presenting the computational techniques for virtual reality in healthcare, it is a valuable reference resource for professionals at educational

institutes as well as researchers, scientists, engineers and practitioners in industry.

Research and Evidence in Software Engineering

Second International Workshop, BrainLes 2016, with the Challenges on BRATS, ISLES and mTOP 2016, Held in Conjunction with MICCAI 2016, Athens, Greece, October 17, 2016, Revised Selected Papers

Integrating Research and Practice in Software Engineering

First Workshop, AAPS 2019, Cambridge, Massachusetts, USA, September 20–21, 2019, Revised Selected Papers

22nd International Conference, SPECOM 2020, St. Petersburg, Russia, October 7–9, 2020, Proceedings

Building a Culture of Transparency and Accountability

The quick growth of computer technology and development of software caused it to be in a constant state of change and advancement. This advancement in software development meant that there would be many types of software developed in order to excel in usability and efficiency. Among these different types of software was open source software, one that grants permission for users to use, study, change, and distribute it freely. Due to its availability, open source software has quickly become a valuable asset to the world of computer technology and across various disciplines including education, business, and library science. The Research Anthology on Usage and Development of Open Source Software presents comprehensive research on the design and development of open source software as well as the ways in which it is used. The text discusses in depth the way in which this computer software has been made into a collaborative effort for the advancement of software technology. Discussing topics such as ISO standards, big data, fault prediction, open collaboration, and software development, this anthology is essential for computer engineers, software developers, IT specialists and consultants, instructors, librarians, managers, executives, professionals, academicians, researchers, and students.

A new and improved algorithm for automatic mesocyclone detection is presented and tested on 23 mesocyclonic storms. A small false-alarm rate (4%) and high probability of detection (83%) are achieved for mesocyclone classification. A unique innovation of the algorithm is the automatic assessment of mesocyclone tornado potential. This is accomplished using excess rotational kinetic energy (ERKE), a form of rotational kinetic energy that is tailored for mesocyclonic shear. ERKE provides a measure of low- to mid-tropospheric mesocyclone intensification that is indicative of impending tornado formation. The quantitative determination provided by ERKE is a much better indicator of storm severity than is simple mesocyclone identification. Median lead times of over 30 min are provided for our small sample by ERKE for strong and violent tornadoes with a false-alarm rate of less than 5. Tornado forecasting. Mesocyclones.

The six-volume set LNCS 10404-10409 constitutes the refereed proceedings of the 17th International Conference on Computational Science and Its Applications, ICCSA 2017, held in Trieste, Italy, in July 2017. The 313 full papers and 12 short papers included in the 6-volume proceedings set were carefully reviewed and selected from 1052 submissions. Apart from the general tracks, ICCSA 2017 included 43 international workshops in various areas of computational sciences, ranging from computational science technologies to specific areas of computational sciences, such as computer graphics and virtual reality. Furthermore, this year ICCSA 2017 hosted the XIV International Workshop On Quantum Reactive Scattering. The program also featured 3 keynote speeches and 4 tutorials.

Recent studies have shown evidences regarding trauma recovery through web-based interventions. Currently, a widespread protocol is to assess trauma severity by answering the PTSD Checklist (PCL) questionnaire, which requires subjects' intervention. This thesis explores the feasibility of automatically predicting changes in trauma severity, delta PCL, through the analysis of electrodermal activity measurements in order not to bother subjects after the intense mental effort experienced during the trauma recovery treatment. Furthermore, the automatic trauma severity prediction can provide web-based trauma recovery treatments with tools to monitor subjects' progress during treatment, so its contents can be adapted to the subjects' needs. This analysis is performed on the EASE dataset, and evaluates the performance of a trauma severity predictor system implemented when predicting global or symptom cluster-wise delta PCL scores. The machine learning models presented in this work are assessed using 3 different feature sets extracted from skin conductance signals. One of these feature sets is proposed in this thesis, while the other ones are already existing and open-source. The baseline for all evaluations is the system performance using CSE-T scores as input, since CSE has proven to be a strong indicator of changes in trauma severity symptoms in various psychological studies. According to the results obtained, the MSEs mean measured when predicting global delta PCL scores with a system that uses C=1 and gamma = 10^{-2} equals 122.870 and 122.488 when inputting CSE-T scores and TEAP set of features extracted from skin conductance signals to the system, respectively. Furthermore, the p-value = 0.9772 obtained between both performances indicates that it seems feasible to replace CSE-T information with skin conductance signs to predict delta PCL scores. On the other hand, the MSEs mean measured with a system that employs C=100 and gamma = 10^{-1} equals 294.916 and 138.277 when employing CSE-T scores and TEAP set of features as system input, respectively. Moreover, the p-value = 0.0046 obtained between both performances indicates that the use of skin conductance signals significantly outperforms the baseline. Additionally, similar results to those presented are obtained in both scenarios when predicting symptom cluster-wise delta PCL scores.

Proceedings of International Conference on Communication and Artificial Intelligence

Selected works of Christopher D. Frith

Highway Safety Literature

Proceedings of the Second International Conference on SCI 2018, Volume 2

Information Systems and Technologies

From Empirical Studies to Open Source Artifacts

4th International Conference, RTIP2R 2021, Msida, Malta, December 8–10, 2021, Revised Selected Papers

This book includes original unpublished contributions presented at the International Conference on Data Analytics and Management (ICDAM 2021), held at Jan Wyzykowski University, Poland, during June 2021. The book covers the topics in data analytics, data management, big data, computational intelligence, and communication networks. The book presents innovative work by leading academics, researchers, and experts from industry which is useful for young researchers and students.

This book highlights the latest advances in the application of artificial intelligence to healthcare and medicine. It gathers selected papers presented at the 2019 Health Intelligence workshop, which was jointly held with the Association for the Advancement of Artificial Intelligence (AAAI) annual conference, and presents an overview of the central issues, challenges, and potential opportunities in the field, along with new research results. By addressing a wide range of practical applications, the book makes the emerging topics of digital health and precision medicine accessible to a broad readership. Further, it offers an essential source of information for scientists, researchers, students, industry professionals, national and international public health agencies, and NGOs interested in the theory and practice of digital and precision medicine and health, with an emphasis on risk factors in connection with disease prevention, diagnosis, and intervention.

As today's world continues to advance, Artificial Intelligence (AI) is a field that has become a staple of technological development and led to the advancement of numerous professional industries. An application within AI that has gained attention is machine learning. Machine learning uses statistical techniques and algorithms to give computer systems the ability to understand and its popularity has circulated through many trades. Understanding this technology and its countless implementations is pivotal for scientists and researchers across the world. The Handbook of Research on Emerging Trends and Applications of Machine Learning provides a high-level understanding of various machine learning algorithms along with modern tools and techniques using Artificial Intelligence. In addition, this book explores the critical role that machine learning plays in a variety of professional fields including healthcare, business, and computer science. While highlighting topics including image processing, predictive analytics, and smart grid management, this book is ideally designed for developers, data scientists, business analysts, information architects, finance agents, healthcare professionals, researchers, retail traders, professors, and graduate students seeking current research on the benefits, implementations, and trends of machine learning.

This book gathers high-quality papers presented at the International Conference on Artificial Intelligence and Applications (ICAIA 2020), held at Maharaja Surajmal Institute of Technology, New Delhi, India, on 6-7 February 2020. The book covers areas such as artificial neural networks, fuzzy systems, computational optimization technologies and machine learning.

Proceedings of the International Computer Symposium (ICS) Held at Taichung, Taiwan, December 12 – 14, 2014

Explainable AI in Healthcare and Medicine

Data Science

Proceedings of Data Analytics and Management

Computational Science and Its Applications - ICCSA 2017

Computational Science and Its Applications - ICCSA 2019

Proceedings of 3rd ICDECT-2K19

This book constitutes the refereed proceedings of the 8th International Workshop on Ophthalmic Medical Image Analysis, OMIA 2021, held in conjunction with the 24th International Conference on Medical Imaging and Computer-Assisted Intervention, MICCAI 2021, in Strasbourg, France, in September 2021.* The 20 papers presented at OMIA 2021 were carefully reviewed and selected from 31 submissions. The papers cover various topics in the field of ophthalmic medical image analysis and challenges in terms of reliability and validation, number and type of conditions considered, multi-modal analysis (e.g., fundus, optical coherence tomography, scanning laser ophthalmoscopy), novel imaging technologies, and the effective transfer of advanced computer vision and machine learning technologies. *The workshop was held virtually.

This book constitutes the proceedings of the 22nd International Conference on Speech and Computer, SPECOM 2020, held in St. Petersburg, Russia, in October 2020. The 65 papers presented were carefully reviewed and selected from 160 submissions. The papers present current research in the area of computer speech processing including speech science, speech technology, natural language processing, human-computer interaction, language identification, multimedia processing, human-machine interaction, deep learning for audio processing, computational paralinguistics, affective computing, speech and language resources, speech translation systems, text mining and sentiment analysis, voice assistants, etc. Due to the Corona pandemic SPECOM 2020 was held as a virtual event.

This book introduces readers to the current trends in using deep learners and deep learner descriptors for medical applications. It reviews the recent literature and presents a variety of medical image and sound applications to illustrate the five major ways deep learners can be utilized: 1) by training a deep learner from scratch (chapters provide tips for handling imbalances and other problems with the medical data); 2) by implementing transfer learning from a pre-trained deep learner and extracting deep features for different CNN layers that can be fed into simpler classifiers, such as the support vector machine; 3) by fine-tuning one or more pre-trained deep learners on an unrelated dataset so that they are able to identify novel medical datasets; 4) by fusing different deep learner architectures; and 5) by combining the above methods to generate a variety of more elaborate ensembles. This book is a value resource for anyone involved in engineering deep learners for medical applications as well as to those interested in learning more about the current techniques in this exciting field. A number of chapters provide source code that can be used to investigate topics further or to kick-start new projects.

This book on classification in biomedical image applications presents original and valuable research work on advances in this field, which covers the taxonomy of both supervised and unsupervised models, standards, algorithms, applications and challenges. Further, the book highlights recent scientific research on artificial neural networks in biomedical applications, addressing the fundamentals of artificial neural networks, support vector machines and other advanced classifiers, as well as their design and optimization. In addition to exploring recent endeavours in the multidisciplinary domain of sensors, the book introduces readers to basic definitions and features, signal filters and processing, biomedical sensors and automation of biomeasurement systems. The target audience includes researchers and students at engineering and medical schools, researchers and engineers in the biomedical industry, medical doctors and healthcare professionals.

Smart Intelligent Computing and Applications

Ophthalmic Medical Image Analysis

Discovering the Social Mind

Automatic Tornado Prediction with an Improved Mesocyclone-Detection Algorithm

Activity monitoring and automatic alarm generation in AAL-enabled homes

Precision Health and Medicine

Handbook of Research on Emerging Trends and Applications of Machine Learning

In the World Library of Psychologists series, international experts themselves present career-long collections of what they judge to be their finest pieces - extracts from books, key articles, salient research findings, and their major practical theoretical contributions. Christopher D. Frith has an international reputation as an eminent scholar and pioneer in the fields of schizophrenia, consciousness, and social cognition. A specially written introduction gives an overview of his career and contextualises the selection in relation to changes in the field during this time. This collection reflects the various directions of Frith's work, which has become increasingly philosophically oriented throughout his career, and enables the reader to trace major developments in these areas over the last forty years. Frith has had his work nominated for the Royal Society Science Book Award and, in 2009, was awarded the Fyssen Foundation Prize for his work on neuropsychology. He has also been awarded several prestigious prizes for his collaborative work with Uta Frith. This book is an essential read for those students and researchers engaged in the fields of social cognition, cognitive psychology and consciousness studies.

The book is a collection of selected high quality research papers presented at the International Conference on Computing in Engineering and Technology (ICCET 2019), held on January 10-11, 2019 at Deogiri Institute of Engineering and Management Studies, Aurangabad, India. Focusing on frontier topics and next-generation technologies, it presents original and innovative research from academics, scientists, students, and engineers alike.

In this book, the authors highlight recent findings that hold the potential to improve software products or development processes; in addition, they help readers understand new concepts and technologies, and to see what it takes to migrate from old to new platforms. Some of the authors have spent most of their careers in industry, working at the frontiers of practice-based innovation, and are at the same time prominent researchers who have made significant academic contributions. Others work together with industry to test, in industrial settings, the methods they've developed in the lab. The choice of subject and authors represent the key elements of this book. Its respective chapters cover a wide range of topics, from cloud computing to agile development, applications of data science methods, re-engineering of aging applications into modern ones, and business and requirements engineering. Taken together, they offer a valuable asset for practitioners and researchers alike.

This book is aimed at researchers, industry professionals and students interested in the broad ranges of disciplines related to condition monitoring of machinery working in non-stationary conditions. Each chapter, accepted after a rigorous peer-review process, reports on a selected, original piece of work presented and discussed at the International Conference on Condition Monitoring of Machinery in Non-stationary Operations, CMMNO'2018, held on June 20 - 22, 2018, in Santander, Spain. The book describes both theoretical developments and a number of industrial case studies, which cover different topics, such as: noise and vibrations in machinery, conditioning monitoring in non-stationary operations, vibro-acoustic diagnosis of machinery, signal processing, application of pattern recognition and data mining, monitoring and diagnostic systems, faults detection, dynamics of structures and machinery, and mechatronic machinery diagnostics.

Strategic System Assurance and Business Analytics

Automation of Decision Making

A Digital Revolution in Healthcare

Proceedings of ICCET 2019

Computing in Engineering and Technology

Transactions of the ASAE.

Techniques and Intelligent Applications

This book presents the proceedings of the International Computer Symposium 2014 (ICS 2014), held at Tunghai University, Taichung, Taiwan in December. ICS is a biennial symposium founded in 1973 and offers a platform for researchers, educators and professionals to exchange their discoveries and practices, to share research experiences and to discuss potential new trends in the ICT industry. Topics covered in the ICS 2014 workshops include: algorithms and computation theory; artificial intelligence and fuzzy systems; computer architecture, embedded systems, SoC and VLSI/EDA; cryptography and information security; databases, data mining, big data and information retrieval; mobile computing, wireless communications and vehicular technologies; software engineering and programming languages; healthcare and bioinformatics, among others. There was also a workshop on information technology innovation, industrial application and the Internet of Things. ICS is one of Taiwan's most prestigious international IT symposiums, and this book will be of interest to all those involved in the world of information technology.

This book covers the topic of data science in a comprehensive manner and synthesizes both fundamental and advanced topics of a research area that has now reached its maturity. The book starts with the basic concepts of data science. It highlights the types of data and their use and importance, followed by a discussion on a wide range of applications of data science and widely used techniques in data science. Key Features • Provides an internationally respected collection of scientific research methods, technologies and applications in the area of data science. • Presents predictive outcomes by applying data science techniques to real-life applications. • Provides readers with the tools, techniques and cases required to excel with modern artificial intelligence methods. • Gives the reader a variety of intelligent applications that can be designed using data science and its allied fields. The book is aimed primarily at advanced undergraduates and graduates studying machine learning and data science. Researchers and professionals will also find this book useful.

This book systematically examines and quantifies industrial problems by assessing the complexity and safety of large systems. It includes chapters on system performance management, software reliability assessment, testing, quality management, analysis using soft computing techniques, management analytics, and business analytics, with a clear focus on exploring real-world business issues. Through contributions from researchers working in the area of performance, management, and business analytics, it explores the development of new methods and approaches to improve business by gaining knowledge from bulk data. With system performance analytics, companies are now able to drive performance and provide actionable insights for each level and for every role using key indicators, generate mobile-enabled scorecards, time series-based analysis using charts, and dashboards. In the current dynamic environment, a viable tool known as multi-criteria decision analysis (MCDA) is increasingly being adopted to deal with complex business decisions. MCDA is an important decision support tool for analyzing goals and providing optimal solutions and alternatives. It comprises several distinct techniques, which are implemented by specialized decision-making packages. This book addresses a number of important MCDA methods, such as DEMATEL, TOPSIS, AHP, MAUT, and Intuitionistic Fuzzy MCDM, which make it possible to derive maximum utility in the area of analytics. As such, it is a valuable resource for researchers and academicians, as well as practitioners and business experts.

Research and Evidence in Software Engineering: From Empirical Studies to Open Source Artifacts introduces advanced software engineering to software engineers, scientists, postdoctoral researchers, academicians, software consultants, management executives, doctoral students, and advanced level postgraduate computer science students. This book contains research articles addressing numerous software engineering research challenges associated with various software development-related activities, including programming, testing, measurements, human factors (social software engineering), specification, quality, program analysis, software project management, and more. It provides relevant theoretical frameworks, empirical research findings, and evaluated solutions addressing the research challenges associated with the above-mentioned software engineering activities. To foster collaboration among the software engineering research community, this book also reports datasets acquired systematically through scientific methods and related to various software engineering aspects that are valuable to the research community. These datasets will allow other researchers to use them in their research, thus improving the quality of overall research. The knowledge disseminated by the research studies contained in the book will hopefully motivate other researchers to further innovation in the way software development happens in real practice.

Advances in Data Science

8th International Workshop, OMIA 2021, Held in Conjunction with MICCAI 2021, Strasbourg, France, September 27, 2021, Proceedings

Proceedings of International Conference on Artificial Intelligence and Applications

Viral Infections and Global Change

WorldCIST 2022, Volume 3

Brainlesion: Glioma, Multiple Sclerosis, Stroke and Traumatic Brain Injuries

Approaches and Trends in Plant Disease Management

This book constitutes the revised and extended papers of the First Automatic Assessment of Parkinsonian Speech Workshop, AAPS 2019, held in Cambridge, Massachusetts, USA, in September 2019. The 6 full papers were thoroughly reviewed and selected from 15 submissions. They present recent research on the automatic assessment of parkinsonian speech from the point of view of such disciplines as machine learning, speech technology, phonetics, neurology, and speech therapy

The book on "Approaches and Trends in Plant Disease Management" takes stock of the present status of research in plant disease management technologies viz., host resistance, cultural practices, biological, molecular, biotechnological approaches and chemical methods. Besides these, chapters on protected cultivation, nematode problems and their management, climate variables and their impact on plant diseases: retrospect and prospect and rational use of fungicides have also been included.

The proceedings covers advanced and multi-disciplinary research on design of smart computing and informatics. The theme of the book broadly focuses on various innovation paradigms in system knowledge, intelligence and sustainability that may be applied to provide realistic solution to varied problems in society, environment and industries.

The volume publishes quality work pertaining to the scope of the conference which is extended towards deployment of emerging computational and knowledge transfer approaches, optimizing solutions in varied disciplines of science, technology and healthcare.

Automation is a predominant objective in the development of modern and advanced manufacturing production. Automatic Supervision in Manufacturing (ASM) addresses unavoidable disturbances occurring during production. Its application results in the unmanned functioning of manufacturing systems through comprehensive and reliable supervision. Automatic Supervision in Manufacturing is a collection of contributions written by specialists in the field from Europe and the USA. It deals with the concept of automatic supervision, the classification of supervisory systems and their functions. This publication will be of great interest to researchers and engineers in the areas of production and manufacturing.

Deep Learners and Deep Learner Descriptors for Medical Applications

ICAIA 2020

Intelligent Systems and Applications

Research Anthology on Usage and Development of Open Source Software

Advances in Condition Monitoring of Machinery in Non-Stationary Operations

Recent Trends in Image Processing and Pattern Recognition

ICCAI 2020

In this work, novel contributions towards the emerging field of Ambient Assisted Living (AAL) are introduced. AAL is a concept envisioned in the early 2000s by the European Commission, aiming at supporting specifically senior people by means of technology and thus helping them to lead independent and self-determined lives in their accustomed environment. Automation technology is believed to be the key to providing various services in the fields of health, safety, comfort, and communication. In the framework of this thesis, health monitoring aspects are of particular interest. Inactivity monitoring is a very promising approach thereto since it allows the detection of potential health threats or changes in behaviour. Deriving condensed and dependable inactivity profiles representing typical user behaviour is a pivotal prerequisite for automatic emergency monitoring. Several methodologies for computing such patterns are introduced. Based on those inactivity profiles, various alarming criteria (i.e., permissible inactivity thresholds) are utilised to trigger alarms. Individual, user-dependant limits. Since false alarms are inevitable in automatic alarming systems, a procedure of handling them is introduced as well. Finally, the real-world application of the devised AAL system is illustrated.

Automatic Assessment of Parkinsonian Speech

19th International Conference, Saint Petersburg, Russia, July 1-4, 2019, Proceedings, Part V

Advanced Computational Intelligence Techniques for Virtual Reality in Healthcare

Classification in BioApps

Computational Neuroimage Analysis Tools for Brain (Diseases) Biomarkers

Proceedings of the 6th International Conference on Condition Monitoring of Machinery in Non-Stationary Operations, CMMNO'2018, 20-22 June 2018, Santander, Spain