

Real Time Camera Pose And Focal Length Estimation

This book brings together papers presented at the 3rd International Conference on Artificial Intelligence in China (ChinaAI), which provides a venue to disseminate the latest developments and to discuss the interactions and links between these multidisciplinary fields. Spanning topics covering all topics in Artificial Intelligence with new development in China, this book is aimed at undergraduate and graduate students in Electrical Engineering, Computer Science and Mathematics, researchers and engineers from academia and industry as well as government employees (such as NSF, DOD, DOE, etc).

The two-volume set LNICTS 236-237 constitutes the post-conference proceedings of the 12th EAI International Conference on Communications and Networking, ChinaCom 2017, held in Xi'an, China, in September 2017. The total of 112 contributions presented in these volumes are carefully reviewed and selected from 178 submissions. The papers are organized in topical sections on wireless communications and networking, satellite and space communications and networking, big data network track, multimedia communications and smart networking, signal processing and communications, network and information security, advances and trends of V2X networks.

This book constitutes the refereed proceedings of the 16th International Conference on Artificial Reality and Telexistence, ICAT 2006, held in Hangzhou, China in November/December 2006. The 138 revised papers cover anthropomorphic intelligent robotics, artificial life, augmented reality, distributed and collaborative VR system, motion tracking, real time computer simulation virtual reality, as well as VR interaction and navigation techniques.

As we entered the 21st century, the rapid growth of information technology has changed our lives more conveniently than we have ever speculated. Recently in all fields of the industry, heterogeneous technologies have converged with information technology resulting in a new paradigm, information technology convergence. In the process of information technology convergence, the latest issues in the structure of data, system, network, and infrastructure have become the most challenging task. Proceedings of the International Conference on IT Convergence and Security 2011 approaches the subject matter with problems in technical convergence and convergences of security technology by looking at new issues that arise from techniques converging. The general scope is convergence security and the latest information technology with the following most important features and benefits: 1. Introduction of the most recent information technology and its related ideas 2. Applications and problems related to technology convergence, and its case studies 3. Introduction of converging existing security techniques through convergence security Overall, after reading Proceedings of the International Conference on IT Convergence and Security 2011, readers will understand the most state of the art information strategies and technologies of convergence security.

First International Conference, AVR 2014, Lecce, Italy, September 17-20, 2014, Revised Selected Papers Entertainment Computing - ICEC 2006

Proceedings of Second International Conference on Computing, Communications, and Cyber-Security 14th Iberoamerican Conference on Pattern Recognition, CIARP 2009, Guadalajara, Jalisco, México, November 15-18, 2009. Proceedings Image Analysis and Recognition

Advances in Artificial Reality and Tele-Existence Computer Analysis of Images and Patterns

This book constitutes the refereed proceedings of the International Workshop on Human-Computer Interaction, HCI 2004, held at ECCV 2004 in Prague, Czech Republic in May 2004. The 19 revised full papers presented together with an introductory overview and an invited paper were carefully reviewed and selected from 45 submissions. The papers are organized in topical sections on human-robot interaction, gesture recognition and body tracking, systems, and face and head.

This book constitutes the refereed proceedings of the 16th Annual Conference on Towards Autonomous Robotics, TAROS 2015, held in Liverpool UK, in September 2015. The 16 revised full papers presented together with 18 short papers were carefully reviewed and selected from 59 submissions. The overall program covers various aspects of robotics, including navigation, planning, sensing and perception, flying and swarm robots, ethics, humanoid robotics, human-robot interaction, and social robotics.

This book constitutes the refereed proceedings of the 4th International Conference on Image Analysis and Recognition, ICIAR 2007, held in Montreal, Canada, in August 2007. The 71 revised full papers and 44 revised poster papers presented were carefully reviewed and selected from 261 submissions. The papers are organized in topical sections on image restoration and enhancement, image and video processing and analysis, image segmentation, computer vision, pattern recognition for image analysis, shape and matching, motion analysis, tracking, image retrieval and indexing, image and video coding and encryption, biometrics, biomedical image analysis, and applications.

This book constitutes the refereed proceedings of the 5th International Conference on Entertainment Computing, ICEC 2006. The 17 revised full papers, 17 revised short papers and 28 poster papers presented together with one keynote paper were carefully reviewed and selected. The papers are organized in topical sections on agents, cultural and psychological metrics, transforming broadcast experience, culture, place, play, display technology, authoring tools, object tracking, edutainment, and network games.

Wearable Electronics and Embedded Computing Systems for Biomedical Applications Land, Sea, and Air

20th International Conference, HIMI 2018, Held as Part of HCI International 2018, Las Vegas, NV, USA, July 15-20, 2018, Proceedings, Part II

ECCV 2004 Workshop on HCI, Prague, Czech Republic, May 16, 2004, Proceedings

Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications

Artificial Intelligence in China

Pattern Recognition

The refereed proceedings of the 12th International Conference on Computer Analysis of Images and Patterns are presented in this volume. The papers cover motion detection and tracking, medical imaging, biometrics, color, curves and surfaces beyond two dimensions, reading characters, words and lines, image segmentation, shape, image registration and matching, signal decomposition and invariants, and features and classification.

The so-called fourth dimension of a metropolis is the underground space beneath a city which typically includes structures such as tunnels, which facilitate transport and provide gas, water and other supplies. Underground space may also be utilised for living, working and recreational facilities and industrial storage. These volumes focus on underground city design and planning; geotechnical survey and improvement of ground mass; and research, development and design of underground constructions in built-up areas. Also covered is the construction and monitoring of urban tunnels, including underground constructions executed from the surface; distribution and management of risks and accidents during tunnelling; tunnel equipment; fire and operational safety. This collection of papers will be invaluable to researchers, scientists, engineers and professionals working in the underground space.

This book is a printed edition of the Special Issue "Wearable Electronics and Embedded Computing Systems for Biomedical Applications" that was published in Electronics

This thesis describes the design and implementation of an algorithm for tracking a moving (e.g., 'tumbling') target. No a priori information about the target is assumed, and only a single camera is used. The motivation is to enable autonomous rendezvous, inspection, and docking by robots in remote environments, such as space and underwater. Tracking refers to the simultaneous estimation of both the target's 6DOF pose and 3D shape (in the form of a point cloud of recognizable features), a problem of the SLAM ('Simultaneous Localization and Mapping') and SFM ('Structure from Motion') research fields. This research extends SLAM/SFM to deal with non-communicative moving targets (rigid bodies) with unknown, arbitrary 6DOF motion and no a priori knowledge of mass properties, dynamics, shape, or appearance. Specifically, a hybrid algorithm for real-time frame-to-frame pose estimation and shape reconstruction is presented. The algorithm combines concepts from two existing approaches to pose tracking, Bayesian estimation methods and nonlinear optimization techniques, to achieve a real-time capable, feasible, smooth estimate of the relative pose between a robotic platform and a moving target. The rationale for a hybrid approach is explained, and an algorithm is presented. A specific implementation using a modified Rao-Blackwellized particle filter is described and tested. Field demonstrations were performed in conjunction with the Monterey Bay Aquarium Research Institute, using the camera-equipped Remotely Operated Vehicle (ROV) Ventana to observe, reconstruct, and track the pose of an underwater tethered target in Monterey Bay. Results are included which demonstrate the performance and viability of the hybrid approach.

Scene Reconstruction Pose Estimation and Tracking Towards Autonomous Robotic Systems

ACCV 2016 International Workshops, Taipei, Taiwan, November 20-24, 2016, Revised Selected Papers, Part II

16th Annual Conference, TAROS 2015, Liverpool, UK, September 8-10, 2015, Proceedings Visual Servoing

Computer Vision - ACCV 2016 Workshops

5th International Conference, Cambridge, UK, September 20-22, 2006, Proceedings

This book presents novel and advanced topics in Medical Image Processing and Computational Vision in order to solidify knowledge in the related fields and define their key stakeholders. It contains extended versions of selected papers presented in VipIMAGE 2013 – IV International ECCOMAS Thematic Conference on Computational Vision and Medical Image, which took place in Funchal, Madeira, Portugal, 14-16 October 2013. The twenty-two chapters were written by invited experts of international recognition and address important issues in medical image processing and computational vision, including: 3D vision, 3D visualization, colour quantisation, continuum mechanics, data fusion, data mining, face recognition, GPU parallelisation, image acquisition and reconstruction, image and video analysis, image clustering, image registration, image restoring, image segmentation, machine learning, modelling and simulation, object detection, object recognition, object tracking, optical flow, pattern recognition, pose estimation, and texture analysis. Different applications are addressed and described throughout the book, comprising: biomechanical studies, bio-structure modelling and simulation, bone characterization, cell tracking, computer-aided diagnosis, dental imaging, face recognition, hand gestures detection and recognition, human motion analysis, human-computer interaction, image and video understanding, image processing, image segmentation, object and scene reconstruction, object recognition and tracking, remote robot control, and surgery planning. This volume is of use to researchers, students, practitioners and manufacturers from several multidisciplinary fields, such as artificial intelligence, bioengineering, biology, biomechanics, computational mechanics, computational vision, computer graphics, computer science, computer vision, human motion, imagiology, machine learning, machine vision, mathematics, medical image, medicine, pattern recognition, and physics.

Computer Vision SystemsThird International Conference, ICVS 2003, Graz, Austria, April 1-3, 2003, ProceedingsSpringer

This book reports recent advances in the use of pattern recognition techniques for computer and robot vision. The sciences of pattern recognition and computational vision have been inextricably intertwined since their early days, some four decades ago with the emergence of fast digital computing. All computer vision techniques could be regarded as a form of pattern recognition, in the broadest sense of the term. Conversely, if one looks through the contents of a typical international pattern recognition conference proceedings, it appears that the large majority (perhaps 70-80%) of all pattern recognition papers are concerned with the analysis of images. In particular, these sciences overlap in areas of low level vision such as segmentation, edge detection and other kinds of feature extraction and region identification, which are the focus of this book.

This two-volume set LNCS 10904 and 10905 constitutes the refereed proceedings of the 20th International Conference on Human Interface and the Management of Information, HIMI 2018, held as part of HCI International 2018 in Las Vegas, NV, USA, in July 2018. The total of 1170 papers and 195 posters included in the 30 HCII 2018 proceedings volumes was carefully reviewed and selected from 4373 submissions. The 53 papers presented in this volume were organized in topical sections named: interacting with information; information and learning; information in aviation and transport; intelligent systems; and service management.

The 11th International Conference on Electronics, Communications and Networks (CECNet), November 18-21, 2021

Proceedings of the World Tunnel Congress 2007 and 33rd ITA/AITES Annual General Assembly, Prague, May 2007

Field and Service Robotics

VIPIMAGE 2013

Computer Vision in Human-Computer Interaction

12th International Conference, CAIP 2007, Vienna, Austria, August 27-29, 2007, Proceedings

Computer Vision -- ECCV 2014

Data will not help you if you can't see it where you need it. Or can't collect it where you need it. Upon these principles, wearable technology was born. And although smart watches and fitness trackers have become almost ubiquitous, with in-body sensors on the horizon, the future applications of wearable computers hold so much more. A trusted reference for almost 15 years, Fundamentals of Wearable Computers and Augmented Reality goes beyond smart clothing to explore user interface design issues specific to wearable tech and areas in which it can be applied. Upon its initial publication, the first edition almost instantly became a trusted reference, setting the stage for the coming decade, in which the explosion in research and applications of wearable computers and augmented reality occurred. Written by expert researchers and teachers, each chapter in the second edition has been revised and updated to reflect advances in the field and provide fundamental knowledge on each topic, solidifying the book's reputation as a valuable technical resource as well as a textbook for augmented reality and ubiquitous computing courses. New Chapters in the Second Edition Explore: Haptics Visual displays Use of augmented reality for surgery and manufacturing Technical issues of image registration and tracking Augmenting the environment with wearable audio interfaces Use of augmented reality in preserving cultural heritage Human-computer interaction and augmented reality technology Spatialized sound and augmented reality Augmented reality and robotics Computational clothing From a technology perspective, much of what is happening now with wearables and augmented reality would not have been possible even five years ago. In the fourteen years since the first edition burst on the scene, the capabilities and applications of both technologies are orders of magnitude faster, smaller, and cheaper. Yet the book's overarching mission remains the same: to supply the fundamental information and basic knowledge about the design and use of wearable computers and augmented reality with the goal of enhancing people's lives.

This carefully edited volume aims at providing readers with the most recent progress on intelligent autonomous systems, with its particular emphasis on intelligent autonomous ground, aerial and underwater vehicles as well as service robots for home and healthcare under the context of the aforementioned convergence. "Frontiers of Intelligent Autonomous Systems" includes thoroughly revised and extended papers selected from the 12th International Conference on Intelligent Autonomous Systems (IAS-12), held in Jeju, Korea, June 26-29, 2012. The editors chose 35 papers out of the 202 papers presented at IAS-12 which are organized into three chapters: Chapter 1 is dedicated to autonomous navigation and mobile manipulation, Chapter 2 to unmanned aerial and underwater vehicles and Chapter 3 to service robots for home and healthcare. To help the readers to easily access this volume, each chapter starts with a chapter summary introduced by one of the editors: Chapter 1 by Sukhan Lee, Chapter 2 by Kwang Joon Yoon and Chapter 3 by Jangmyung Lee.

Intelligent autonomous systems are emerged as a key enabler for the creation of a new paradigm of services to humankind, as seen by the recent advancement of autonomous cars licensed for driving in our streets, of unmanned aerial and underwater vehicles carrying out hazardous tasks on-site, and of space robots engaged in scientific as well as operational missions, to list only a few. This book aims at serving the researchers and practitioners in related fields with a timely dissemination of the recent progress on intelligent autonomous systems, based on a collection of papers presented at the 12th International Conference on Intelligent Autonomous Systems, held in Jeju, Korea, June 26-29, 2012. With the theme of "Intelligence and Autonomy for the Service to Humankind, the conference has covered such diverse areas as autonomous ground, aerial, and underwater vehicles, intelligent transportation systems, personal/domestic service robots, professional service robots for surgery/rehabilitation, rescue/security and space applications, and intelligent autonomous systems for manufacturing and healthcare. This volume 2 includes contributions devoted to Service Robotics and Human-Robot Interaction and Autonomous Multi-Agent Systems and Life Engineering.

A unified view of the use of computer vision technology for different types of vehicles Computer Vision in Vehicle Technology focuses on computer vision as on-board technology, bringing together fields of research where computer vision is progressively penetrating: the automotive sector, unmanned aerial and underwater vehicles. It also serves as a reference for researchers of current developments and challenges in areas of the application of computer vision, involving vehicles such as advanced driver assistance (pedestrian detection, lane departure warning, traffic sign recognition), autonomous driving and robot navigation (with visual simultaneous localization and mapping) or unmanned aerial vehicles (obstacle avoidance, landscape classification and mapping, fire risk assessment). The overall role of computer vision for the navigation of different vehicles, as well as technology to address on-board applications, is analysed. Key features: Presents the latest advances in the field of computer vision and vehicle technologies in a highly informative and understandable way, including the basic mathematics for each problem. Provides a comprehensive summary of the state of the art computer vision techniques in vehicles from the navigation and the addressable applications points of view. Offers a detailed description of the open challenges and business opportunities for the immediate future in the field of vision based vehicle technologies. This is essential reading for computer vision researchers, as well as engineers working in vehicle technologies, and students of computer vision.

Frontiers of Intelligent Autonomous Systems

Ubiquitous Information Technologies

Augmented and Virtual Reality

Computer Vision -- ACCV 2007

Advances in Spatio-Temporal Analysis

Volume 2 Proceedings of the 12th International Conference IAS-12, held June 26-29, 2012, Jeju Island, Korea

16th International Conference on Artificial Reality and Telexistence, ICAT 2006, Hangzhou, China, November 28 - December 1, 2006, Proceedings

Computational Vision and Medical Image Processing. VIPIMAGE 2013 contains invited lectures and full papers presented at VIPIMAGE 2013 - IV ECCOMAS Thematic Conference on Computational Vision and Medical Image Processing (Funchal, Madeira Island, Portugal, 14-16 October 2013). International contributions from 16 countries provide a comprehensive coverage of the current state-of-the-art in the fields of: 3D Vision; Computational Bioimaging and Visualization; Computational Vision and Image Processing applied to Dental Medicine; Computational Vision; Computer Aided Diagnosis, Surgery, Therapy, and Treatment; Data Interpolation, Registration, Acquisition and Compression; Image Processing and Analysis; Image Segmentation; Imaging of Biological Flows; Medical Imaging; Physics of Medical Imaging; Shape Reconstruction; Signal Processing; Simulation and Modeling; Software Development for Image Processing and Analysis; Telemedicine Systems and their Applications; Trabecular Bone Characterization; Tracking and Analysis of Movement; Virtual Reality. Related techniques covered in this book include the level set method, finite element method, modal analyses, stochastic methods, principal and independent components analysis and distribution models. Computational Vision and Medical Image Processing. VIPIMAGE 2013 is useful to academics, researchers and professionals in Biomechanics, Biomedical Engineering, Computational Vision (image processing and analysis), Computer Sciences, Computational Mechanics and Medicine.

The 2-volume set LNCS 10324 and 10325 constitutes the refereed proceedings of the 4th International Conference on Augmented Reality, Virtual Reality, and Computer Graphics, AVR 2017, held in Ugento, Italy, in June 2017. The 54 full papers and 24 short papers presented were carefully reviewed and selected from 112 submissions. The papers are organized in the following topical sections: virtual reality; augmented and mixed reality; computer graphics; human-computer interaction; applications of VR/AR in medicine; and applications of VR/AR in cultural heritage.

This book constitutes the proceedings of the third Sino-foreign-interchange Workshop on Intelligence Science and Intelligent Data Engineering, IScIDE 2012, held in Nanjing, China, in October 2012. The 105 papers presented were carefully peer-reviewed and selected from 429 submissions. Topics covered include pattern recognition; computer vision and image processing; machine learning and computational intelligence; knowledge discovery, data mining, and web mining; graphics and computer visualization; and multimedia processing and applications.

This book constitutes the refereed proceedings of the Third International Conference on Computer Vision Systems, ICVS 2003, held in Graz, Austria, in April 2003. The 51 revised full papers presented were carefully reviewed and selected from 109 submissions. The papers are organized in topical sections on cognitive vision, philosophical issues in cognitive vision, cognitive vision and applications, computer vision architectures, performance evaluation, implementation methods, architecture and classical computer vision, and video annotation.

*Results of the 11th International Conference**4th International Conference, ICIAR 2007, Montreal, Canada, August 22-24, 2007, Proceedings**Third International Conference, ICVS 2003, Graz, Austria, April 1-3, 2003, Proceedings**Developments in Medical Image Processing and Computational Vision**Computer Vision, Imaging and Computer Graphics - Theory and Applications**Proceedings of the 3rd International Conference on Artificial Intelligence in China**32nd DAGM Symposium, Darmstadt, Germany, September 22-24, 2010, Proceedings*

This title is part of a two volume set that constitutes the refereed proceedings of the 8th Asian Conference on Computer Vision, ACCV 2007. Coverage in this volume includes shape and texture, face and gesture, camera networks, face/gesture/action detection and recognition, learning, motion and tracking, human pose estimation, matching, face/gesture/action detection and recognition, low level vision and photometry, motion and tracking, human detection, and segmentation.

This book constitutes thoroughly revised and selected papers from the 12th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications, VISIGRAPP 2017, held in Porto, Portugal, February 27 - March 1, 2017. The 18 thoroughly revised and extended papers presented in this volume were carefully reviewed and selected from 402 submissions. The papers contribute to the understanding of relevant trends of current research in image and video formation, preprocessing, analysis and understanding; motion, tracking and stereo vision; computer graphics and rendering; data visualization and interactive visual data analysis; agent-based human-robot interactions; and user experience.

This book features selected research papers presented at the Second International Conference on Computing, Communications, and Cyber-Security (IC4S 2020), organized in Krishna Engineering College (KEC), Ghaziabad, India, along with Academic Associates; Southern Federal University, Russia; IAC Educational, India; and ITS Mohan Nagar, Ghaziabad, India during 3-4 October 2020. It includes innovative work from researchers, leading innovators, and professionals in the area of communication and network technologies, advanced computing technologies, data analytics and intelligent learning, the latest electrical and electronics trends, and security and privacy issues.

Real-time human pose tracking enables a variety of applications, including intuitive human-machine interaction, smart surveillance, character animation, virtual reality, gaming, and physical therapy. Traditional approaches have required multiple cameras and special suits with markers, rendering these techniques impractical for most consumer applications. Consequently, recent research has focused on marker-less human pose estimation using only a single camera. We approach this problem with a single consumer-grade range camera, which is an active sensor that measures distance at each pixel. While direct distance measurements greatly assist the reconstruction problem, these cameras are low resolution and noisy compared to traditional color cameras, and self-occlusion causes ambiguities when attempting to reconstruct pose from a single view. This thesis presents a new real-time human pose tracking algorithm based on a generative model of the range camera measurement process. Bayes' theorem is applied to find the maximum a-posteriori estimate of the pose given the measured range image and priors on human shape. The resulting non-convex optimization problem is difficult to solve, often containing many plateaus and multiple local maxima. We address these difficulties with an algorithm comprised of an outer loop that proposes new poses based on a prior on motion and part detections from the observed image, and an inner loop that refines the pose to better match the observations. The latter refinement itself decomposes into two alternating phases: the first establishes correspondences between observations and the surface of the human model, while the second updates the pose given the correspondences via a constrained continuous optimization. For quantitative evaluation, a large dataset was collected using two types of range cameras and a traditional marker-based motion capture system. The presented algorithm is able to accurately track complicated full-body movements involving significant self-occlusion and fast motions on humans of different sizes and shapes without any explicit initialization. The algorithm runs at more than 30 frames per second on a consumer computer using about half of one processor core.

Intelligent Science and Intelligent Data Engineering

Fundamentals of Wearable Computers and Augmented Reality

Intelligent Autonomous Systems 12

4th International Conference, AVR 2017, Ugento, Italy, June 12-15, 2017, Proceedings, Part I

Third Sino-foreign-interchange Workshop, ISciDE 2012, Nanjing, China, October 15-17, 2012, Revised Selected Papers

Computer Science and its Applications

13th European Conference, Zurich, Switzerland, September 6-12, 2014, Proceedings, Part II

This book describes for readers technology used for effective sensing of our physical world and intelligent processing techniques for sensed information, which are essential to the success of Internet of Things (IoT). The authors provide a multidisciplinary view of sensor technology from materials, process, circuits, and big data domains and showcase smart sensor systems in real applications including smart home, transportation, medical, environmental, agricultural, etc. Unlike earlier books on sensors, this book will provide a "global" view on smart sensors covering abstraction levels from device, circuit, systems, and algorithms. Profiles active research on smart sensors based on CMOS microelectronics; Describes applications of sensors and sensor systems in cyber physical systems, the social information infrastructure in our modern world; Includes coverage of a variety of related information technologies supporting the application of sensors; Discusses the integration of computation, networking, actuation, databases, and various sensors, in order to embed smart sensor systems into actual social systems.

The 6th FTRA International Conference on Computer Science and its Applications (CSA-14) will be held in Guam, USA, Dec. 17 - 19, 2014. CSA-14 presents a comprehensive conference focused on the various aspects of advances in engineering systems in computer science, and applications, including ubiquitous computing, U-Health care system, Big Data, UI/UX for human-centric computing, Computing Service, Bioinformatics and Bio-Inspired Computing and will show recent advances on various aspects of computing technology, Ubiquitous Computing Services and its application.

This book contains the proceedings of the 11th FSR (Field and Service Robotics), which is the leading single-track conference on applications of robotics in challenging environments. This conference was held in Zurich, Switzerland from 12-15 September 2017. The book contains 45 full-length, peer-reviewed papers organized into a variety of topics: Control, Computer Vision, Inspection, Machine Learning, Mapping, Navigation and Planning, and Systems and Tools. The goal of the book and the conference is to report and encourage the development and experimental evaluation of field and service robots, and to generate a vibrant exchange and discussion in the community. Field robots are non-factory robots, typically mobile, that operate in complex and dynamic environments: on the ground (Earth or other planets), under the ground, underwater, in the air or in space. Service robots are those that work closely with humans to help them with their lives. The first FSR was held in Canberra, Australia, in 1997. Since that first meeting, FSR has been held roughly every two years, cycling through Asia, Americas, and Europe.

It is almost impossible to imagine life today without the electronics, communications and networks we have all come to take for granted. The 6G network is currently under development and some chips able to operate at the Terahertz (THz) scale have already been introduced, so the next decade will probably see the consolidation of 6G-based technology, as well as many compliant devices. This book presents the proceedings of the 11th International Conference on Electronics, Communications and Networks (CECNet 2021), initially planned to be held from 18-21 November 2021 in Beijing, China, but ultimately held as an online event due to ongoing COVID-19 restrictions. The CECNet series is now an established annual event attracting participants in the interrelated fields of electronics, computers, communications and wireless communications engineering and technology from around the world. Careful review by program committee members, who took into consideration the breadth and depth of those research topics that fall within the scope of CECNet, resulted in the selection of the 88 papers presented here from the 325 submissions received. This represents an acceptance rate of around 27%. Providing an overview of current research and developments in these rapidly evolving fields, the book will be of interest to all those working with digital communications networks.

Real-Time Control of Robot Manipulators Based on Visual Sensory Feedback

Communications and Networking

Augmented Reality, Virtual Reality, and Computer Graphics

Third International Conference, ICIAR 2006, Póvoa de Varzim, Portugal, September 18-20, 2006, Proceedings, Part II

Improving Disaster Resilience and Mitigation - IT Means and Tools

Underground Space - The 4th Dimension of Metropolises, Three Volume Set +CD-ROM

On behalf of the organizing committee, we would like to welcome you to Darmstadt and DAGM 2010, the 32 Annual Symposium of the German Association for Pattern Recognition. The technical program covered all aspects of pattern recognition and, to name only a few areas, ranged from 3D reconstruction, to object recognition and medical applications. The result is reflected in these proceedings, which contain the papers presented at DAGM 2010. Our call for papers resulted in 134 submissions from institutions in 21 countries. Each paper underwent a rigorous reviewing process and was assigned to at least three program committee members for review. The reviewing phase was followed by a discussion phase among the respective program committee members in order to suggest papers for acceptance. The final decision was taken during a program committee meeting held in Darmstadt based on all reviews, the discussion results and, if necessary, additional reviewing. Based on this rigorous process we selected a total of 57 papers, corresponding to an acceptance rate of below 45%. Out of all accepted papers, 24 were chosen for oral and 33 for poster presentation. All accepted papers have been published in these proceedings and given the same number of pages. We would like to thank all members of the program committee as well as the external reviewers for their valuable and highly appreciated contribution to the community. The 14th Iberoamerican Congress on Pattern Recognition (CIARP 2009, Congreso Iberoamericano de Reconocimiento de Patrones) formed the latest of a new long series of successful meetings arranged by the rapidly growing Iberoamerican pattern recognition community. The conference was held in Guadalajara, Jalisco, Mexico and organized by the Mexican Association for Computer Vision, Neural Computing and Robotics (MACVNR). It was sponsored by MACVNR and the other Iberoamerican PR societies. CIARP 2009 was like the previous conferences in the series supported by the International Association for Pattern Recognition (IAPR). CIARP 2009 attracted participants from all over the world presenting state-of-the-art research on mathematical methods and computing techniques for pattern recognition, computer vision, image and signal analysis, robot vision, and speech recognition, as well as on a wide range of their applications. This time the conference attracted participants from 23 countries, 9 in Iberoamerica, and 14 from other parts of the world. The total number of submitted papers was 187, and after a serious review process 108 papers were accepted, all of them with a scientific quality above overall mean rating. Sixty-four were selected as oral presentations and 44 as posters. Since 2008 the conference is almost single track, and therefore there was no real grading in quality between oral and poster papers. As an acknowledgment that CIARP has established itself as a high-quality conference, its proceedings appear in the Lecture Notes in Computer Science series. Moreover, its visibility is further enhanced by a selection of a set of papers that will be published in a special issue of the journal Pattern Recognition Letters.

The focus of this volume is comprised of the fundamentals, models, and information technologies (IT) methods and tools for disaster prediction and mitigation. A more detailed list of topics includes mathematical and computational modeling of processes leading to or producing disasters, modeling of disaster effects, IT means for disaster mitigation, including data mining tools, knowledge-based and expert systems for use in disaster circumstances, GIS-based systems for disaster prevention and mitigation and equipment for disaster-prone areas. A specific type or class of disasters (natural or human-made), however will not be part of the main focus of this work. Instead, this book was conceived to offer a comprehensive, integrative view on disasters, seeking to determine what various disasters have in common. Because disaster resilience and mitigation involve humans, societies and cultures, not only technologies and economic models, special attention was paid in this volume to gain a comprehensive view on these issues, as a foundation of the IT tool design.

The seven-volume set comprising LNCS volumes 8689-8695 constitutes the refereed proceedings of the 13th European Conference on Computer Vision, ECCV 2014, held in Zurich, Switzerland, in September 2014.

The 363 revised papers presented were carefully reviewed and selected from 1444 submissions. The papers are organized in topical sections on tracking and activity recognition; recognition; learning and inference; structure from motion and feature matching; computational photography and low-level vision; vision; segmentation and saliency; context and 3D scenes; motion and 3D scene analysis; and poster sessions.

Computer Vision in Vehicle Technology

Smart Sensors and Systems

Proceedings of the International Conference on IT Convergence and Security 2011

Computational Vision and Medical Image Processing IV

Human Interface and the Management of Information. Information in Applications and Services

12th International Conference, ChinaCom 2017, Xi'an, China, October 10-12, 2017, Proceedings, Part II

Monocular Pose and Shape Estimation of Moving Targets, for Autonomous Rendezvous and Docking

The three-volume set, consisting of LNCS 10116, 10117, and 10118, contains carefully reviewed and selected papers presented at 17 workshops held in conjunction with the 13th Asian Conference on Computer Vision, ACCV 2016, in Taipei, Taiwan in November 2016. The 134 full papers presented were selected from 223 submissions. LNCS 10116 contains the papers selected

The two-volume set LNCS 4141, and LNCS 4142 constitutes the refereed proceedings of the Third International Conference on Image Analysis and Recognition, ICIAR 2006. The volumes present 71 revised full papers and 92 revised poster papers together with 2 invited lectures. Volume II includes papers on pattern recognition for image analysis, computer vision, biometrics, shape and matching, brain imaging, remote sensing image processing, and more.

This book constitutes the thoroughly revised papers of the First International Conference on Augmented and Virtual Reality, AVR 2014, held in Lecce, Italy, in September 2014. The 28 papers, 2 tutorials and 3 keynotes presented were carefully reviewed and selected from 76 submissions. They include topics from virtual/augmented/mixed reality to 3D user interfaces and the technology needed to enable these environments to a wide range of applications (medical, entertainment, military, design, manufacture, maintenance, arts and cultural heritage).

Developments in Geographic Information Technology have raised the expectations of users. A static map is no longer enough: there is now demand for a dynamic representation. Time is of great importance when operating on real world geographical phenomena, especially when these are dynamic. Researchers in the field of Temporal Geographical Information Systems (TGIS) have been developing methods of incorporating time into geographical information systems. Spatio-temporal analysis embodies spatial modelling, spatio-temporal modelling and spatial reasoning and data mining. Advances in Spatio-Temporal Analysis contributes to the field of spatio-temporal analysis, presenting innovative ideas and examples that reflect current progress and achievements.

8th Asian Conference on Computer Vision, Tokyo, Japan, November 18-22, 2007, Proceedings, Part I

IC4S 2020

Proceedings of CECNet 2021

Real-time Human Pose Tracking from Range Data

12th International Joint Conference, VISIGRAPP 2017, Porto, Portugal, February 27 - March 1, 2017, Revised Selected Papers

Computer Vision Systems

Technology Advancement and Application Demonstrations