Accuracy Analysis Of Photogrammetric Uav Image Blocks

This guidance covers the practical application of photogrammetry in recording cultural heritage, with particular reference to structure from motion (SfM) techniques. Our audience for this document includes survey contractors, archaeological contractors, voluntary organisations and specialists. Photogrammetric image acquisition and processing, until recently requiring a considerable investment in hardware and software, are now possible at a fraction of their former cost. This has led to a huge increase in the use of photogrammetry in cultural heritage recording. The skills required to apply the techniques successfully and accurately are discussed, and background information on how various parts of the process work is provided so that better re can be achieved through better understanding. Photogrammetry is characterised by its versatility, and is applicable over a wide range of scales, from landscapes to small objects. The particular requirements needed at these different scales are outlined, and both imaging techniques and useful ancillary equipment are described. The different types of outputs are discussed, inclu their suitability for further interrogation using a range of established analytical techniques and the presentation options available. A range of case studies illustrates the application of photogrammetry across a variety of projects that broadly reflect the areas discussed in the text. This document is one of a number of Historic England technical advice documents on how to survey historic places.

UAV Photogrammetry and Remote SensingMDPI

This book constitutes the proceedings of the 5th International Conference on Interactive Collaborative Robotics, ICR 2020, held in St. Petersburg, Russia, in October 2020. The 31 papers presented were carefully reviewed and selected from 62 submissions. Challenges of human-robot interaction, robot control and behavior in social robotics and collaborative robotics, as well as applied robotic and cyber-physical systems are mainly discussed in the papers.

Advances in high spatial resolution mapping capabilities and the new rules established by the Federal Aviation Administration in the United States for the operation of Small Unmanned Aircraft Systems (sUAS) have provided new opportunities to acquire aerial data at a lower cost and more safely versus other methods. A similar opening of the skies for sUAS applications is being allowed in countries across the world. Also, sUAS can access hazardous or inaccessible areas during disaster events and provide rapid response when needed. Applications of Small Unmanned Aircraft systems: Best Practices and Case Studies is the first book that brings together the best practices of sUAS applied to a broad range of issues in high spatial resolution mapping p Very few sUAS pilots have the knowledge of how the collected imagery is processed into value added mapping products that have commercial and/or academic import. Since the field of sUAS applications is just a few years old, this book covers the need for a compendium of case studies to guide the planning, data collection, and most importantly data processing and map erro with the range of sensors available to the user community. Written by experienced academics and professionals, this book serves as a guide on how to formulate sUAS based projects, from choice of a sUAS, flight planning for a particular application, sensors and data acquisition, data processing software, mapping software and use of the high spatial resolution maps produced particular types of geospatial modeling. Features: Focus on sUAS based data acquisition and processing into map products Broad range of case studies by highly experienced academics Practical guidance on sUAS hardware, sensors, and software utilized Compilation of workflow insights from expert professors and professionals Relevant to academia, government, and indust Positional and thematic map accuracy, UAS curriculum development and workflow replicability issues This book would be an excellent text for upper-level undergraduate to graduate level sUAS mapping application courses. It is also invaluable as a reference for educators designing sUAS based curriculum as well as for potential sUAS users to assess the scope of mapping proj that can be done with this technology.

Photogrammetric Applications for Cultural Heritage

Advances in Responsible Land Administration

Multidisciplinary Loess Geohazard Investigations

Advances and Trends in Geodesy, Cartography and Geoinformatics II

Protection of Historical Constructions

Interactive Collaborative Robotics

Drones in Smart-Cities

The book presents a collection of papers focused on recent progress in key areas of photogrammetry for environmental research. Applications oriented to the understanding of natural phenomena and quantitative processes using dataset from photogrammetry (from satellite to unmanned aerial vehicle images) and terrestrial laser scanning, also by a diachronic approach, are reported. The book covers topics of interest of many disciplines from geography, geomorphology, engineering geology, geotechnology, including landscape description and coastal studies. Mains issues faced by the book are related to applications on coastal monitoring, using multitemporal aerial images, and investigations on geomorphological hazard by the joint use of proximal photogrammetry, terrestrial and aerial laser scanning aimed to the reconstruction of detailed surface topography and successive 2D/3D numerical simulations for rock slope stability analyses. Results reported in the book bring into evidence the fundamental role of multitemporal surveys and reliable reconstruction of morphologies from photogrammetry and laser scanning as support to environmental researches.

This book contains papers presented at the International Conference on Cognitive based Information Processing and Applications (CIPA) held during August 21, 2021, online conference (since COVID 19), which is divided into a 2-volume book. The papers in the second volume represent the various technological advancements in network information processing, graphics and image processing, medical care, machine learning, smart cities. It caters to postgraduate students, researchers, and practitioners specializing and working in the area of cognitive-inspired computing and information processing.

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 form 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.

This volume contains a selection of peer-reviewed papers presented at the International Scientific and Professional Conference Geodesy, Cartography and Geoinformatics 2019 (GCG 2019). The conference provided a forum for prominent scientists, researchers and professionals from Slovakia, Poland and the Czech Republic to present novel and fundamental advances in the fields of geodesy, cartography and geoinformatics. Conference participants had the opportunity to exchange and share their experiences, research and results solved within scientific research projects with other colleagues. The conference was focused on a wide spectrum of actual topics and subjects areas in Surveying and mine surveying, Geodetic control and geodynamics and Cartography and Geoinformatics collected in this proceedings volume. The Book Series "Advances and Trends in Geodesy, Cartography and Geoinformatics" is, in line with its long tradition, devoted to the publication of proceedings of peer-reviewed international conferences focusing on presenting technological and scientific advances in modern geodesy, geoinformatics, cartography, photogrammetry, remote sensing, geography, and related sciences. It plays an extremely important role in accelerating the development of all these disciplines, stimulating advanced education and training through the wide dissemination of new scientific knowledge and trends in Geodesy, Cartography and Geoinformatics to a broad group of scientists and specialists.

Proceedings of the Second International Conference on Design Tools and Methods in Industrial Engineering, ADM 2021, September 9–10, 2021, Rome, Italy

Intelligent Systems for Crisis Management

The Rise of Big Spatial Data

sUAS Applications in Geography

Principles, Techniques and Geoscience Applications

Applications

6th International Conference, GISTAM 2020, Prague, Czech Republic, May 7–9, 2020, Revised Selected Papers

While megacities are a reality, so too are the environmental disturbances that they cause, including air and water pollution. These disturbances can be modeled with technology and data obtained by modern methods, such as by drone, to monitor cities in near real-time as well as help to simulate risk situations and propose future solutions. These solutions can be inspired by the theoretical principles of sustainable urbanism. Methods and Applications of Geospatial Technology in Sustainable Urbanism is a collection of innovative research that combines theory and practice on analyzing urban environments and applying sustainability principles to them. Highlighting a wide range of topics including geographic information systems, internet mapping technologies, and green urbanism, this book is ideally designed for urban planners, public administration officials, landscape analysts, geographers, engineers, entrepreneurs, academicians, researchers, and students.

This book gathers original papers reporting on innovative methods and tools in design, modelling, simulation and optimization, and their applications in engineering design, manufacturing and other relevant industrial sectors. Topics span from advances in geometric modelling, applications of virtual reality, innovative strategies for product development and additive manufacturing, human factors and user-centered design, engineering design education and applications of engineering design methods in medical rehabilitation and cultural heritage. Chapters are based on contributions to the Second International Conference on Design Tools and Methods in Industrial Engineering, ADM 2021, held on September 9–10, 2021, in Rome, Italy, and organized by the Italian Association of Design Methods and Tools for Industrial Engineering, and Dipartimento di Ingegneria Meccanica e Aerospaziale of Sapienza Università di Roma, Italy. All in all, this book provides academics and professionals with a timely overview and extensive information on trends and technologies in industrial design and manufacturing.

Unmanned aerial vehicles (UAVs) are new platforms that have been increasingly used in the last few years for forestry applications that benefit from the added value of flexibility, low cost, reliability, autonomy, and capability of timely provision of high-resolution data. The main adopted image-based technologies are RGB, multispectral, and thermal infrared. LiDAR sensors are becoming commonly used to improve the estimation of relevant plant traits. In comparison with other permanent ecosystems, forests are particularly affected by climatic changes due to the longevity of the trees, and the primary objective is the conservation and protection of forests. Nevertheless, forestry and agriculture involve the cultivation of renewable raw materials, with the difference that forestry is less tied to economic aspects and this is reflected by the delay in using new monitoring technologies. The main forestry applications are aimed toward inventory of resources, map diseases, species classification, fire monitoring, and spatial gap estimation. This Special Issue focuses on new technologies (UAV and sensors) and innovative data elaboration methodologies (object recognition and machine vision) for applications in forestry.

This volume considers the links and contrasts between Europe and the areas around the eastern Mediterranean that were visited and occupied by western crusaders and settlers in the twelfth and thirteenth centuries, giving special attention to the evidence provided by archaeology and material culture, as well as historical sources.

GPS and GNSS Technology in Geosciences

Computational Science and Its Applications – ICCSA 2020

Volume 2

Fundamentals of Capturing and Processing Drone Imagery and Data

Proceedings of UASG 2019

Methods and Applications of Geospatial Technology in Sustainable Urbanism

Integrated Sensor Orientation

In the past several years, there have been significant technological advances in the field of crisis response. However, many aspects concerning the efficient collection and integration of geo-information, applied semantics and situation awareness for disaster management remain open. Improving crisis response systems and making them intelligent requires extensive collaboration between emergency responders, disaster managers, system designers and researchers alike. To facilitate this process, the Gi4DM (GeoInformation for Disaster Management) conferences have been held regularly since 2005. The events are coordinated by the Joint Board of Geospatial Information Societies (JB GIS) and ICSU GeoUnions. This book presents the outcomes of the Gi4DM 2018 conference, which was organised by the ISPRS-URSI Joint Working Group ICWG III/IVa: Disaster Assessment, Monitoring and Management and held in Istanbul, Turkey on 18-21 March 2018. It includes 12 scientific papers focusing on the intelligent use of geo-information, semantics and situation awareness.

The book is dealing with recent progress in human–computer interaction (HCI) related to geographic information science (GIS). The Editorial starts with an overview about the evolution of the Internet and first HCI concepts and stimulates recent HCI developments using 3D and 4D apps, running on all mobile devices with OS Android, iOS, Linus, and Windows. Eight research articles present the state-of-the-art in HCI–GIS-related issues, starting with gender and age differences in using indoor maps via the estimation of building heights from space to an efficient visualization method for polygonal data with dynamic simplification. The review article deals with progress and challenges on entity alignment of geographic knowledge bases.

Unmanned aircraft systems (UAS) are rapidly emerging as flexible platforms for capturing imagery and other data across the sciences. Many colleges and universities are developing courses on UAS-based data acquisition. Fundamentals of Capturing and Processing Drone Imagery and Data is a comprehensive, introductory text on how to use unmanned aircraft systems for data capture and analysis. It provides best practices for planning data capture missions and hands-on learning modules geared toward UAS data collection, processing, and applications. FEATURES Lays out a step-by-step approach to identify relevant tools and methods for UAS data/image acquisition and processing Provides practical hands-on knowledge with visual interpretation, well-organized and designed for a typical 16-week UAS course offered on college and university campuses Suitable for all levels of readers and does not require prior knowledge of UAS, remote sensing, digital image processing, or geospatial analytics Includes real-world environmental applications along with data interpretations and software used, often nonproprietary Combines the expertise of a wide range of UAS researchers and practitioners across the geospatial sciences This book provides a general introduction to drones along with a series of hands-on exercises that students and researchers can engage with to learn to integrate drone data into real-world applications. No prior background in remote sensing, GIS, or drone knowledge is needed to use this book. Readers will learn to process different types of UAS imagery for applications (such as precision agriculture, forestry, urban landscapes) and apply this knowledge in environmental monitoring and land-use studies.

This book constitutes selected, revised and extended papers of the 6th International Conference on Geographical Information Systems Theory, Applications and Management, GISTAM 2020, held in Prague, Czech Republic, May 2020. Due to the COVID-19 pandemic the conference was held online. The 9 revised full papers presented were carefully reviewed and selected from 62 submissions. The papers are centered on urban and regional planning; water information systems; geospatial information and technologies; spatio-temporal database management; decision support systems; energy information systems; GPS and location detection.

Applications of Photogrammetry for Environmental Research

UAV Photogrammetry of Forests as a Vulnerable Process

New Technologies, Development and Application III

20th International Conference, Cagliari, Italy, July 1–4, 2020, Proceedings, Part IV

Proceedings of the 11th International Scientific and Professional Conference on Geodesy, Cartography and Geoinformatics (GCG 2019), September 10 - 13, 2019, Demänovská Dolina, Low Tatras, Slovakia

19th International Conference, Saint Petersburg, Russia, July 1–4, 2019, Proceedings, Part IV

The use of small unoccupied aerial systems (sUAS) for acquiring close-range remotely sensed data has substantially increased in the past 5 years. A primary focus of early research was on physical systems and photogrammetric techniques. However, as sUAS technology continues to improve and more sophisticated payloads are utilized, such as lidar and multispectral cameras, applications have expanded to nearly all subdisciplines within Geography. This edited volume is intended to showcase the various ways in which sUAS are used in geographic research, including geomorphology, environmental and hazard monitoring, biogeography, and urban and sociocultural geography.

Young students and people, formally or informally engaged in the forest sector, will be the guardians and managers of tomorrow's forests. Technology savvy, the youth can play an instrumental role in the uptake and scaling-up of innovative technologies (whether digital technologies, biological technologies, technical innovations on processes and products, or innovative finance and social innovations), able to advance sustainable development in the forest sector in the region. Young people can bring in the innovation debate forward-looking perspectives and out-of-the-box thinking. This is why FAO and CIFOR/FTA decided to strengthen their voice in the debate, relaying their experiences and propositions for sustainable innovation in the forest sector. This FAO and CIFOR co-publication gathers 13 youth contributions, carefully selected. These contributions illustrate, in various contexts, the potential of innovative technologies to advance sustainable forestry and sustainable forest management in the Asia-Pacific region.

The seven volumes LNCS 12249-12255 constitute the refereed proceedings of the 20th International Conference on Computational Science and Its Applications, ICCSA 2020, held in Cagliari, Italy, in July 2020. Due to COVID-19 pandemic the conference was organized in an online event. Computational Science is the main pillar of most of the present research, industrial and commercial applications, and plays a unique role in exploiting ICT innovative technologies. The 466 full papers and 32 short papers presented were carefully reviewed and selected from 1450 submissions. Apart from the general track, ICCSA 2020 also include 52 workshops, in various areas of computational sciences, ranging from computational science technologies, to specific areas of computational sciences, such as software engineering, security, machine learning and artificial intelligence, blockchain technologies, and of applications in many fields.

As the need for geographical data rapidly expands in the 21st century, so too do applications of small-format aerial photography for a wide range of scientific, commercial and governmental purposes. Small-format Aerial Photography (SFAP) presents basic and advanced principles and techniques with an emphasis on digital cameras. Unmanned platforms are described in considerable detail, including kites, helium and hot-air blimps, model airplanes, and paragliders. Several case studies, primarily drawn from the geosciences, are presented to demonstrate how SFAP is actually used in various applications. Many of these integrate SFAP with ground-based investigations as well as conventional large-format aerial photography, satellite imagery, and other kinds of geographic information. Full-color photographs throughout Case studies from around the globe Techniques presented allow for image resolution impossible to match via traditional aerial photography or satellite datasets Glossary clarifies key terms

19th International Conference, Saint Petersburg, Russia, July 1–4, 2019, Proceedings

Forestry Applications of Unmanned Aerial Vehicles (UAVs) 2019

Advances on Mechanics, Design Engineering and Manufacturing

Geomatics and Geospatial Technologies

Asia-Pacific Forest Sector Outlook: Innovative forestry for a sustainable future

Structure from Motion in the Geosciences

A Sensitivity Analysis for a Structure from Motion RGB-image Pipeline

This volume constitutes selected papers presented at the 24th Italian Conference on Geomatics and Geospatial Technologies, ASITA 2021, held as five sessions takind place between 1 and 23 July, 2021. Due to the COVID-19 pandemic the conference was held online. The 28 papers were thoroughly reviewed and selected from 139 submissions. They are organized in topical sections on remote sensing applications; geomatics and natural hazards; geomatics for cultural heritage and natural resources; sensors performance and data processing; geomatics and land management.

This edited volume gathers the proceedings of the Symposium GIS Ostrava 2016, the Rise of Big Spatial Data, held at the Technical University of Ostrava, Czech Republic, March 16–18, 2016. Combining theoretical papers and applications by authors from around the globe, it summarises the latest research findings in the area of big spatial data and key problems related to its utilisation. Welcome to dawn of the big data era: though it's in sight, it isn't quite here yet. Big spatial data is characterised by three main features: volume beyond the limit of usual geo-processing, velocity higher than that available using conventional processes, and variety, combining more diverse geodata sources than usual. The popular term denotes a situation in which one or more of these key properties reaches a point at which traditional methods for geodata collection, storage, processing, control, analysis, modelling, validation and visualisation fail to provide effective solutions. >Entering the era of big spatial data calls for finding solutions that address all "small data" issues that soon create "big data" troubles. Resilience for big spatial data means solving the heterogeneity of spatial data sources (in topics, purpose, completeness, guarantee, licensing, coverage etc.), large volumes (from gigabytes to terabytes and more), undue complexity of geo-applications and systems (i.e. combination of standalone applications with web services, mobile platforms and sensor networks), neglected automation of geodata preparation (i.e. harmonisation, fusion), insufficient control of geodata collection and distribution processes (i.e. scarcity and poor quality of metadata and metadata systems), limited analytical tool capacity (i.e. domination of traditional causal-driven analysis), low visual system performance, inefficient knowledge-discovery techniques (for transformation of vast amounts of information into tiny and essential outputs) and much more. These trends are accelerating as sensors become more ubiquitous around the world.

Advances in Responsible Land Administration challenges conventional forms of land administration by introducing alternative approaches and provides the basis for a new land administration theory. A compilation of observations about responsible land administration in East Africa, it focuses on a new empirical foundation rather than preexisting ideals. Presenting practical knowledge resulting from real cases, it incorporates empirical studies highlighting Rwanda, Ethiopia, Tanzania, Uganda, and Kenya. The book considers contemporary change forces that include responsible technological innovation, post-conflict contexts, rural poverty, rapid urbanization, food security, and citizen participation. It covers land information system design, innovative data capture tools and techniques, and algorithms and approaches to support land consolidation and pastoralist land administration. The book also evaluates the outcomes of approaches specifically geared toward workflow design, land use changes, land tenure perceptions, conflict reduction, and governance measures. Outlining key aspects of what fit for purpose land administration looks like, this book presents: A contemporary update for the land administration sector An overview of East African developments, a current focus region for innovative land administration design A collection of cutting-edge tools from practice and for practice—with enough support data and methodological underpinnings to be readily utilized for advocacy, design, and assessment Advances in Responsible Land Administration is an up-to-date discourse that promotes the theoretical notion of responsible land administration. The book highlights real cases, provides real data, and introduces novel alternatives to conventional methodologies in land administration. Using the information in this book, you can develop a coherent theoretical foundation for further research in this area.

This book gathers the peer-reviewed papers presented at the 4th International Conference on Protection of Historical Constructions (PROHITECH), held in Athens, Greece, on October 25-27, 2021. The conference topics encompass structural and earthquake engineering, intervention strategies, materials and technologies, digital documentation, architecture and urban planning, cultural heritage, all of which represented by a showcase of case studies covering different construction materials, as well as sustainability, energy efficiency, and adaptation to climate changes. As such the book represents an invaluable, up-to-the-minute tool, providing an essential overview of protection of historical constructions, and offers an important platform to researchers, engineers and architects.

UAV Photogrammetry

Cognitive Aspects of Human-Computer Interaction for GIS

Theory, Algorithms, and Systems

Applications of Small Unmanned Aircraft Systems

International Conference on Cognitive based Information Processing and Applications (CIPA 2021)

Guidance for Good Practice

UAV or Drones for Remote Sensing Applications

The concept of remote sensing as a way of capturing information from an object without making contact with it has, until recently, been exclusively focused on the use of Earth observation satellites. The emergence of unmanned aerial vehicles (UAV) with Global Navigation Satellite System (GNSS) controlled navigation and sensor-carrying capabilities has increased the number of publications related to new remote sensing from much closer distances. Previous knowledge about the behavior of the Earth's surface under the incidence different wavelengths of energy has been successfully applied to a large amount of data recorded from UAVs, thereby increasing the special and temporal resolution of the products obtained. More specifically, the ability of UAVs to be positioned in the air at pre-programmed coordinate points; to track flight paths; and in any case, to record the coordinates of the sensor position at the time of the shot and at the pitch, yaw, and roll angles have opened an interesting field of applications for low-altitude aerial photogrammetry, known as UAV photogrammetry. In addition, photogrammetric data processing has been improved thanks to the combination of new algorithms, e.g., structure from motion (SfM), which solves the collinearity equations without the need for any control point, producing a cloud of points referenced to an arbitrary coordinate system and a full camera calibration, and the multi-view stereopsis (MVS) algorithm, which applies an expanding procedure of sparse set of matched keypoints in order to obtain a dense point cloud. The set of technical advances described above allows for geometric modeling of terrain surfaces with high accuracy, minimizing the need for topographic campaigns for georeferencing of such products. This Special Issue aims to compile some applications realized thanks to the synergies established between new remote sensing from close distances and UAV photogrammetry.

This proceedings book features papers presented at the International Conference on New Technologies, Development and Application, held at the Academy of Sciences and Arts of Bosnia and Herzegovina in Sarajevo on 25th–27th June 2020. It covers a wide range of future technologies and technical disciplines, including complex systems such as Industry 4.0; patents in Industry 4.0; robotics; mechatronics systems; automation; manufacturing; cyber-physical and autonomous systems; sensors; networks; control; energy and renewable energy sources; automotive and biological systems; vehicular networking and connected vehicles; effectiveness and logistics systems; smart grids; nonlinear systems; power; social and economic systems; education; and IoT. The book focuses on the Fourth Industrial Revolution "Industry 4.0," in which implementation will improve many aspects of human life in all segments and lead to changes in business paradigms and production models. Further, new business methods are emerging, transforming production systems, transport, delivery, and consumption, which need to be monitored and implemented by every company involved in the global market.

Structure from Motion with Multi View Stereo provides hyperscale landform models using images acquired from standard compact cameras and a network of ground control points. The technique is not limited in temporal frequency and can provide point cloud data comparable in density and accuracy to those generated by terrestrial and airborne laser scanning at a fraction of the cost. It therefore offers exciting opportunities to characterise surface topography in unprecedented detail and, with multi-temporal data, to detect elevation, position and volumetric changes that are symptomatic of earth surface processes. This book firstly places Structure from Motion in the context of other digital surveying methods and details the Structure from Motion workflow including available software packages and assessments of uncertainty and accuracy. It then critically reviews current usage of Structure from Motion in the geosciences, provides a synthesis of recent validation studies and looks to the future by highlighting opportunities arising from developments in allied disciplines. This book will appeal to academics, students and industry professionals because it balances technical knowledge of the Structure from Motion workflow with practical guidelines for image acquisition, image processing and data quality assessment and includes case studies that have been contributed by experts from around the world.

This book is a printed edition of the Special Issue "UAV or Drones for Remote Sensing Applications" that was published in Sensors

The Need for a High-Accuracy, Open-Access Global Digital Elevation Model

Drones

Bridge of Civilizations: The Near East and Europe c. 1100–1300

Gi4DM 2018

Small-Format Aerial Photography

Security and Performance

5th International Conference, ICR 2020, St Petersburg, Russia, October 7-9, 2020, Proceedings

This book gathers papers presented at the International Joint Conference on Mechanics, Design Engineering and Advanced Manufacturing (JCM 2016), held on 14-16 September, 2016, in Catania, Italy. It reports on cutting-edge topics in product design and manufacturing, such as industrial methods for integrated product and process design; innovative design; and computer-aided design. Further topics covered include virtual simulation and reverse engineering; additive manufacturing; product manufacturing; engineering methods in medicine and education; representation techniques; and nautical, aeronautics and aerospace design and modeling. The book is divided into eight main sections, reflecting the focus and primary themes of the conference. The contributions presented here will not only provide researchers, engineers and experts in a range of industrial engineering subfields with extensive information to support their daily work; they are also intended to stimulate new research directions, advanced applications of the methods discussed, and future interdisciplinary collaborations.

Drone technologies have constantly been developing for over 100 years. The latest models exhibit a previously unseen set of specifications available to the end users. The collective effort of distinguished international researchers, within the field of drone technologies, has been incorporated into this textbook suitable to the broader audience. The book has been edited by Prof. George Dekoulis, Aerospace Engineering Institute (AEI), Cyprus, an expert on state-of-the-art implementations of reconfigurable space engineering systems. The book consists of four main sections, namely, "Introduction," "Drone History," "Drone Design," and "Drone Applications." We hope this book will be beneficial to professionals, researchers, and academicians and, moreover, to inspire the younger generations into pursuing relevant academic studies and professional careers within the drone industry.

Remote Sensing of Geomorphology, Volume 23, discusses the new range of remote-sensing techniques (lidar, structure from motion photogrammetry, advanced satellite platforms) that has led to a dramatic increase in terrain information, and as such provided new opportunities for a better understanding of surface morphology and related Earth surface processes. As several papers have been published (including paper reviews and special issues) on this topic, this book summarizes the major advances in remote sensing techniques for the analysis of Earth surface morphology and processes, also highlighting future challenges. Useful for MSc and PhD students, this book is also ideal for any scientists that want to have a single volume guideline to help them develop new ideas. In addition, technicians and private and public sectors working on remote sensing will find the information useful to their initiatives. Provides a useful guideline for MSc and PhD students, scientists, technicians, and land planners on the use of remote sensing in geomorphology Includes applications on specific case studies that highlight issues and benefits of one technique compared to others Presents future trends in remote sensing and geomorphology

Drones in Smart-Cities: Security and Performance is the first book dedicated to drones in smart cities, helping address the many research challenges in bringing UAVs into practice. The book incorporates insights from the latest research in Internet of Things, big data, and cloud computing, 5G, and other communication technologies. It examines the design and implementation of UAV, focusing on data delivery, performability, and security. Intended for researchers, engineers, and practitioners, Drones in Smart-Cities: Security and Performance combines the technical aspects with academic theory to help implement the smart city vision around the globe. Addresses UAV and IoT for smart cities applications Examines topics as UAV safety, challenges, localization methods. QoS, simulation tools, and more Collect the relevant knowledge in one resource, saving research time and effort

Unmanned Aerial System in Geomatics

Proceedings of PROHITECH 2021

Proceedings of the International Joint Conference on Mechanics, Design Engineering & Advanced Manufacturing (JCM 2016), 14-16 September, 2016, Catania, Italy

Youth contributions from Asia and the Pacific

Best Practices and Case Studies

Computational Science and Its Applications – ICCSA 2019

24th Italian Conference, ASITA 2021, Genoa, Italy, July 1-2, 9, 16, 23, 2021 : Proceedings

GPS and GNSS Technology in Geosciences offers an interdisciplinary approach to applying advances in GPS/GNSS technology for geoscience research and practice. As GPS/GNSS signals can be used to provide useful information about the Earth's surface characteristics and land surface composition, GPS equipment and services for commercial purposes continues to grow, thus resulting in new expectations and demands. This book provides case studies for a deeper understanding of the operation and principles of widely applied approaches and the benefits of the technology in everyday research and activities. Presents processing, methods and techniques of GPS/GNSS implementation that are utilized in in-situ data collection in design and systems analysis Offers an all-inclusive, critical overview of the state-of-the-art in different algorithms and techniques in GPS/GNSS Addresses both theoretical and applied research contributions on the use of this technology in a variety of geoscience disciplines

This volume gathers the latest advances, innovations, and applications in the field of geographic information systems and unmanned aerial vehicle (UAV) technologies, as presented by leading researchers and engineers at the 1st International Conference on Unmanned Aerial System in Geomatics (UASG), held in Roorkee, India on April 6-7, 2019. It covers highly diverse topics, including photogrammetry and remote sensing, surveying, UAV manufacturing, geospatial data sensing, UAV processing, visualization, and management, UAV applications and regulations, geo-informatics and geomatics. The contributions, which were selected by means of a rigorous international peer-review process, highlight numerous exciting ideas that will spur novel research directions and foster multidisciplinary collaboration among different specialists.

Remote Sensing of Geomorphology

Design Tools and Methods in Industrial Engineering II

Geographical Information Systems Theory, Applications and Management

UAV Photogrammetry and Remote Sensing

Volume 1