Evaluating AaI Systems Through Competitive Benchmarking Indoor Localization And Tracking Internati

#indoor localization #competitive benchmarking #system performance evaluation #location tracking technologies #benchmarking methodologies

This resource delves into effective strategies for system performance evaluation, particularly focusing on competitive benchmarking as a robust approach. It provides insights into rigorously assessing indoor localization and location tracking technologies, highlighting various benchmarking methodologies essential for understanding accuracy, reliability, and overall efficacy of different systems in real-world environments.

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Evaluating AAL Systems Through Competitive Benchmarking - Indoor Localization and Tracking

This book constitutes the refereed proceedings of the international competition aimed at the evaluation and assessment of Ambient Assisted Living (AAL) systems and services, EvAAL 2011, which was organized in two major events, the Competition in Valencia, Spain, in July 2011, and the Final workshop in Lecce, Italy, in September 2011. The papers included in this book describe the organization and technical aspects of the competition, and provide a complete technical description of the competing artefacts and report on the experience lessons learned by the teams during the competition.

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Recent Advances in Indoor Localization Systems and Technologies

Despite the enormous technical progress seen in the past few years, the maturity of indoor localization technologies has not yet reached the level of GNSS solutions. The 23 selected papers in this book present the recent advances and new developments in indoor localization systems and technologies, propose novel or improved methods with increased performance, provide insight into various aspects of quality control, and also introduce some unorthodox positioning methods.

Distributed, Ambient, and Pervasive Interactions

This book constitutes the refereed proceedings of the 5th International Conference on Distributed, Ambient and Pervasive Interactions, DAPI 2013, held as part of the 15th International Conference on Human-Computer Interaction, HCII 2013, held in Las Vegas, USA in July 2013, jointly with 12 other thematically similar conferences. The total of 1666 papers and 303 posters presented at the HCII 2013 conferences was carefully reviewed and selected from 5210 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of human-computer interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. The total of 54 contributions was carefully reviewed and selected for inclusion in the DAPI proceedings. The papers are organized in the following topical sections: natural interaction; context-awareness in smart and intelligent environments; design and evaluation of smart and intelligent environments; smart cities; multi-user, group and collaborative interaction; smart everyday living and working environments.

Agent-Based Modeling of Sustainable Behaviors

Using the O.D.D. (Overview, Design concepts, Detail) protocol, this title explores the role of agent-based modeling in predicting the feasibility of various approaches to sustainability. The chapters incorporated in this volume consist of real case studies to illustrate the utility of agent-based modeling and complexity theory in discovering a path to more efficient and sustainable lifestyles. The topics covered within include: households' attitudes toward recycling, designing decision trees for representing sustainable behaviors, negotiation-based parking allocation, auction-based traffic signal control, and others. This selection of papers will be of interest to social scientists who wish to learn more about agent-based modeling as well as experts in the field of agent-based modeling.

Ambient Assisted Living

In this book, leading authors in the field discuss the habitats of tomorrow. These habitats will be connected through autonomous and assistive systems, turning habitats into health resorts. This book discusses how assistance technologies enable a smooth transition from comfortable health support to medical or nursing care. The contributions have been chosen and invited at the 9th AAL congress, Frankfurt.

Geographical and Fingerprinting Data for Positioning and Navigation Systems

Geographical and Fingerprinting Data for Positioning and Navigation Systems: Challenges, Experiences and Technology Roadmap explores the state-of-the -art software tools and innovative strategies to provide better understanding of positioning and navigation in indoor environments using fingerprinting techniques. The book provides the different problems and challenges of indoor positioning and navigation services and shows how fingerprinting can be used to address such necessities. This advanced publication provides the useful references educational institutions, industry, academic researchers, professionals, developers and practitioners need to apply, evaluate and reproduce this book's contributions. The readers will learn how to apply the necessary infrastructure to provide fingerprinting services and scalable environments to deal with fingerprint data. Provides the current state of fingerprinting for indoor positioning and navigation, along with its challenges and achievements Presents solutions for using WIFI signals to position and navigate in indoor environments Covers solutions for using the magnetic field to position and navigate in indoor environments Contains solutions of a modular positioning system as a solution for seamless positioning Analyzes geographical and fingerprint data in order to provide indoor/outdoor location and navigation systems

Ambient Intelligence

This book constitutes the refereed proceedings of the 5th International Joint Conference of Ambient Intelligence, AmI 2014, held in Eindhoven, The Netherlands, in November 2014. The 21 revised full papers presented together with 5 short papers and 4 workshop papers were carefully reviewed and selected from 59 submissions. The papers are organized along a set of thematic tracks: ambient assisted living; internet of things; ambient play and learning; smart buildings and cities; intelligent driving; data science; smart healthcare and healing environments; ambient persuasion; and new and emerging themes.

Wireless Mobile Communication and Healthcare

This book constitutes the refereed proceedings of the Third International Conference on Wireless Mobile Communication and Healthcare, MobiHealth 2012, and of the two workshops: Workshop on Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies (APHS 2012), and Workshop on Advances in Wireless Physical Layer Communications for Emerging Healthcare Applications (IWAWPLC 2012), all held in Paris, France, in November 2012. The 39 revised full papers presented were carefully reviewed and selected from 66 submissions. The papers are organized in topical sections covering wearable, outdoor and home-based applications; remote diagnosis and patient management; data processing; sensor devices and systems; biomedical monitoring in relation to society and the environment; body area networks; telemedicine systems for disease-specific applications; data collection and management; papers from the invited session "Implants"; papers from the IWAWPLC and APHS workshops.

Workshop Proceedings of the 9th International Conference on Intelligent Environments

Intelligent Environments (IE) play an increasingly important role in many areas of our lives, including education, healthcare and the domestic environment. The term refers to physical spaces incorporating pervasive computing technology used to achieve specific goals for the user, the environment or both. This book presents the proceedings of the workshops of the 9th International Conference on Intelligent Environments (IE '13), held in Athens, Greece, in July 2013. The workshops which were presented in the context of this conference range from regular lectures to practical sessions. They provide a forum for scientists, researchers and engineers from both industry and academia to engage in discussions on newly emerging or rapidly evolving topics in the field. Topics covered in the workshops include artificial intelligence techniques for ambient intelligence; applications of affective computing in intelligent environments; smart offices and other workplaces; intelligent environment technology in education for creative learning; museums as intelligent environments; the application of intelligent environment technologies in the urban context for creating more sociable, intelligent cities and for constructing urban intelligence. IE can enrich user experience, better manage the environment's resources, and increase user awareness of that environment. This book will be of interest to all those whose work involves the application of intelligent environments.

6th European Conference of the International Federation for Medical and Biological Engineering

This volume presents the Proceedings of the 6th European Conference of the International Federation for Medical and Biological Engineering (MBEC2014), held in Dubrovnik September 7 – 11, 2014. The general theme of MBEC 2014 is "Towards new horizons in biomedical engineering" The scientific discussions in these conference proceedings include the following themes: - Biomedical Signal Processing - Biomedical Imaging and Image Processing - Biosensors and Bioinstrumentation - Bio-Micro/Nano Technologies - Biomaterials - Biomechanics, Robotics and Minimally Invasive Surgery - Cardiovascular, Respiratory and Endocrine Systems Engineering - Neural and Rehabilitation Engineering - Molecular, Cellular and Tissue Engineering - Bioinformatics and Computational Biology - Clinical Engineering and Health Technology Assessment - Health Informatics, E-Health and Telemedicine - Biomedical Engineering Education

Progress in Location Based Services 2018

This book gathers a selection of the best papers presented during the 14th International Conference on Location Based Services, which was held in Zurich (Switzerland) between the 15th and 17th January 2018. It presents a general overview of recent research activities related to location based services. Such activities have grown in importance over the past several years, especially those concerning outdoor/indoor positioning, smart environments, spatial modeling, personalization and

context-awareness, cartographic communication, novel user interfaces, crowdsourcing, social media, big data analysis, usability and privacy.

Positioning and Navigation in Complex Environments

The limitations of satellites create a large gap in assistive directional technologies, especially indoors. The methods and advances in alternate directional technologies is allowing for new systems to fill the gaps caused by the limitations of GPS systems. Positioning and Navigation in Complex Environments is a critical scholarly resource that examines the methodologies and advances in technologies that allow for indoor navigation. Featuring insight on a broad scope of topics, such as multipath mitigation, Global Navigation Satellite System (GNSS), and multi-sensor integration, this book is directed toward data scientists, engineers, government agencies, researchers, and graduate-level students.

PHealth 2018

Smart mobile systems, such as microsystems, smart textiles, smart implants, and sensor-controlled medical devices, together with innovative sensor and actuator techniques and related networks, have become important enablers for telemedicine and a new generation of health services. Social media and gamification have added even more knowledge to pHealth as an ecosystem. This book presents the proceedings of pHealth 2018. Held in Gjøvik, Norway, in June 2018, this is the 15th in a series of scientific conferences which have brought together expertise from medical, technological, political, administrative, and social domains, and even from philosophy or linguistics. Initiated in 2003 as part of a European project, the scope of these conferences now encompasses technological and biomedical facilities, legal, ethical, social, and organizational requirements and impacts, as well as necessary basic research for enabling future-proof care paradigms. The conferences thereby combine medical services with public health, preventive medicine, social and elderly care, wellness and personal fitness to establish participatory, predictive, personalized, preventive, and effective care settings. The book includes 1 of the 2 keynotes presented at the conference, 4 invited talks, 16 oral presentations, and 7 short poster presentations. All submissions were carefully and critically reviewed by at least two independent experts, and this selective review process resulted in a full papers rejection rate of 50%.

Ambient Assisted Living

This book documents the state of the art in the field of ambient assisted living (AAL), highlighting the impressive potential of novel methodologies and technologies to enhance well-being and promote active ageing. The coverage is wide ranging, with sections on assistive devices, elderly people monitoring, home rehabilitation, ICT solutions for AAL, living with chronic conditions, robotic assistance for the elderly, sensing technologies for AAL, and smart housing. The book comprises a selection of the best papers presented at the 7th Italian Forum on Ambient Assisted Living (ForitAAL 2016), which was held in Pisa, Italy, in June 2016 and brought together end users, technology teams, and policy makers to develop a consensus on how to improve provision for elderly and impaired people. Readers will find that the expert contributions offer clear insights into the ways in which the most exciting advances may be expected to assist in addressing the needs of the elderly and those with chronic conditions.

ROBOT 2017: Third Iberian Robotics Conference

These volumes of "Advances in Intelligent Systems and Computing" highlight papers presented at the "Third Iberian Robotics Conference (ROBOT 2017)". Held from 22 to 24 November 2017 in Seville, Spain, the conference is a part of a series of conferences co-organized by SEIDROB (Spanish Society for Research and Development in Robotics) and SPR (Portuguese Society for Robotics). The conference is focused on Robotics scientific and technological activities in the Iberian Peninsula, although open to research and delegates from other countries. Thus, it has more than 500 authors from 21 countries. The volumes present scientific advances but also robotic industrial applications, looking to promote new collaborations between industry and academia.

Internet of Things (IoT) in 5G Mobile Technologies

This book reports on the latest advances in the modeling, analysis and efficient management of information in Internet of Things (IoT) applications in the context of 5G access technologies. It presents cutting-edge applications made possible by the implementation of femtocell networks and

millimeter wave communications solutions, examining them from the perspective of the universally and constantly connected IoT. Moreover, it describes novel architectural approaches to the IoT and presents the new framework possibilities offered by 5G mobile networks, including middleware requirements, node-centrality and the location of extensive functionalities at the edge. By providing researchers and professionals with a timely snapshot of emerging mobile communication systems, and highlighting the main pitfalls and potential solutions, the book fills an important gap in the literature and will foster the further developments of 5G hosting IoT devices.

Methods and Applications for Modeling and Simulation of Complex Systems

The two-volume set CCIS 1712 and 1713 constitutes the proceedings of the 21st Asian Simulation Conference, AsiaSim 2022, which took place in Changsha, China, in January 2023. Due to the Covid pandemic AsiaSim 2022 has been postponed to January 2023. The 97 papers presented in the proceedings were carefully reviewed and selected from 218 submissions. The contributions were organized in topical sections as follows: Modeling theory and methodology; Continuous system/discrete event system/hybrid system/intelligent system modeling and simulation; Complex systems and open, complex and giant systems modeling and simulation; Integrated natural environment and virtual reality environment modeling and simulation; Networked Modeling and Simulation; Flight simulation, simulator, simulation support environment, simulation standard and simulation system construction; High performance computing, parallel computing, pervasive computing, embedded computing and simulation; CAD/CAE/CAM/CIMS/VP/VM/VR/SBA; Big data challenges and requirements for simulation and knowledge services of big data ecosystem; Artificial intelligence for simulation; Application of modeling/simulation in science/engineering/society/economy /management/energy/transportation/life/biology/medicine etc; Application of modeling/simulation in energy saving/emission reduction, public safety, disaster prevention/mitigation; Modeling/simulation applications in the military field; Modeling/simulation applications in education and training; Modeling/simulation applications in entertainment and sports.

eHealth in Deutschland

Dieses Buch gibt einen umfassenden Überblick über Potenziale und Herausforderungen von eHealth im deutschen Kontext. Aus interdisziplinärer Sicht werden zunächst die Grundlagen und Voraussetzungen dargestellt, wie z. B. technische Standards, rechtliche Rahmenbedingungen sowie Aspekte in Bezug auf Qualität und Finanzierung von eHealth-Anwendungen. Bei der Beschreibung wichtiger Anwendungsfelder wird neben allgemeinen eHealth-Anwendungen insbesondere auf die Telemedizin als einem zentralen Instrument von eHealth eingegangen. Dabei werden Anwendungsmöglichkeiten und Anforderungen an die Telemedizin aus unterschiedlichen fachlichen Disziplinen aufgezeigt. Einen weiteren Schwerpunkt bildet die onlinebasierte Gesundheitskommunikation, wobei das Internet im Mittelpunkt der Diskussion steht; dieses nimmt für die Bevölkerung einen immer höheren Stellenwert beim Erwerb von (gesundheitsbezogenen) Informationen ein. Die Zielgruppen Das Buch wendet sich sowohl an Wissenschaftler und Studierende unterschiedlicher Fachdisziplinen, u.a. der Gesundheitswissenschaften, Medizin, Informatik und Kommunikationswissenschaften, als auch an Praktiker wie z.B. Beschäftigte im Gesundheitswesen und in der Medizintechnik.

Performance Analysis in Sport

This eBook is a collection of articles from a Frontiers Research Topic. Frontiers Research Topics are very popular trademarks of the Frontiers Journals Series: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area! Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers Editorial Office: frontiersin.org/about/contact.

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ADVANCES IN EMERGING COMPUTING TECHNOLOGIES

Frontiers in robotics and AI editor's picks 2022

This new edition incorporates revised guidance from H.M Treasury which is designed to promote efficient policy development and resource allocation across government through the use of a thorough, long-term and analytically robust approach to the appraisal and evaluation of public service projects before significant funds are committed. It is the first edition to have been aided by a consultation process in order to ensure the guidance is clearer and more closely tailored to suit the needs of users.

Commerce Business Daily

In recent years, rapid development in robotics, mobile, and communication technologies has encouraged many studies in the field of localization and navigation in indoor environments. An accurate localization system that can operate in an indoor environment has considerable practical value, because it can be built into autonomous mobile systems or a personal navigation system on a smartphone for guiding people through airports, shopping malls, museums and other public institutions, etc. Such a system would be particularly useful for blind people. Modern smartphones are equipped with numerous sensors (such as inertial sensors, cameras, and barometers) and communication modules (such as WiFi, Bluetooth, NFC, LTE/5G, and UWB capabilities), which enable the implementation of various localization algorithms, namely, visual localization, inertial navigation system, and radio localization. For the mapping of indoor environments and localization of autonomous mobile sysems, LIDAR sensors are also frequently used in addition to smartphone sensors. Visual localization and inertial navigation systems are sensitive to external disturbances; therefore, sensor fusion approaches can be used for the implementation of robust localization algorithms. These have to be optimized in order to be computationally efficient, which is essential for realtime processing and low energy consumption on a smartphone or robot.

The Green Book

For more than 40 years, Computerworld has been the leading source of technology news and information for IT influencers worldwide. Computerworld's award-winning Web site (Computerworld.com), twice-monthly publication, focused conference series and custom research form the hub of the world's largest global IT media network.

Indoor Positioning and Navigation

In the age of automation the ability to navigate persons and devices in indoor environments has become increasingly important for a rising number of applications. However, we are still far away from achieving cheap provision of global indoor positioning with an accuracy of 1 meter or better. With the emergence of global satellite positioning systems, the performance of outdoor positioning has become excellent, but many mass market applications require seamless positioning capabilities in all environments. Therefore indoor positioning has become a focus of research and development during the past decade. This book categorizes all sighted indoor positioning approaches into 13 distinct technologies and describes the measuring principles of each. Individual approaches are characterized and key performance parameters are quantified.

Computerworld

Artificial Intelligence (AI) in Healthcare is more than a comprehensive introduction to artificial intelligence as a tool in the generation and analysis of healthcare data. The book is split into two sections where the first section describes the current healthcare challenges and the rise of AI in this arena. The ten following chapters are written by specialists in each area, covering the whole healthcare ecosystem. First, the AI applications in drug design and drug development are presented followed by its applications in the field of cancer diagnostics, treatment and medical imaging. Subsequently, the application of AI in medical devices and surgery are covered as well as remote patient monitoring. Finally, the book dives into the topics of security, privacy, information sharing, health insurances and legal aspects of AI in healthcare. Highlights different data techniques in healthcare data analysis, including machine learning and data mining Illustrates different applications and challenges across the design, implementation

and management of intelligent systems and healthcare data networks Includes applications and case studies across all areas of AI in healthcare data

Dissertation Abstracts International

The Software Encyclopedia