# You Only Look Once Uni Ed Real Time Object Detection

This book provides insights into the International e-Conference on Intelligent Systems and Signal Processing (eISSP 2020) held By Electronics & Communication Engineering Department of G H Patel College of Engineering & Technology, Gujarat, India, during 28-30 December 2020. The book comprises contributions by the research scholars and academicians covering the topics in signal processing and communication engineering, applied electronics and emerging technologies, Internet of Things (IoT), robotics, machine learning, deep learning and artificial intelligence. The main emphasis of the book is on dissemination of information, experience and research results on the current topics of interest through in-depth discussions and contribution of researchers from all over world. The book is useful for research community, academicians, industrialists and postgraduate students across the globe.

This book presents the combined proceedings of the 13th International Conference on Multimedia and Ubiquitous Engineering (MUE 2019) and the 14th International Conference on Future Information Technology (Future Tech 2019), both held in Xi'an, China, April 24 - 26, 2019. The aim of these two meetings was to promote discussion and interaction among academics, researchers and professionals in the field of ubiquitous computing technologies. These proceedings reflect the state of the art in the development of computational methods, involving theory, algorithms, numerical simulation, error and uncertainty analysis and novel applications of new processing techniques in engineering, science, and other disciplines related to ubiquitous computing.

This three volume set, CCIS 771, 772, 773, constitutes the refereed proceedings of the CCF Chinese Conference on Computer Vision, CCCV 2017, held in Tianjin, China, in October 2017. The total of 174 revised full papers presented in three volumes were carefully reviewed and selected from 465 submissions. The papers are organized in the following topical sections: biological vision inspired visual method; biomedical image analysis; computer vision applications; deep neural network; face and posture analysis; image and video retrieval; image color and texture; image composition; image quality assessment and analysis; image restoration; image segmentation and classification; image-based modeling; object detection and classification; object identification; photography and video; robot vision; shape representation and matching; statistical methods and learning; video analysis and event recognition; visual salient detection.

The advent of connected, smart technologies for the built environment may promise a significant value that has to be reached to develop digital city models. At the international level, the role of digital twin is strictly related to massive amounts of data that need to be processed, which proposes several challenges in terms of digital technologies capability, computing, interoperability, simulation, calibration, and representation. In these terms, the development of 3D parametric models as digital twins to evaluate energy assessment of private and public buildings is considered one of the main challenges of the last years. The ability to gather, manage, and communicate contents related to energy saving in buildings for the development of smart cities must be considered a specificity in the age of connection to increase citizen awareness of these fields. The Handbook of Research on Developing Smart Cities Based on Digital Twins contains in-depth research focused on the description of

methods, processes, and tools that can be adopted to achieve smart city goals. The book presents a valid medium for disseminating innovative data management methods related to smart city topics. While highlighting topics such as data visualization, a web-based ICT platform, and data-sharing methods, this book is ideally intended for researchers in the building industry, energy, and computer science fields; public administrators; building managers; and energy professionals along with practitioners, stakeholders, researchers, academicians, and students interested in the implementation of smart technologies for the built environment.

This book examines innovation in the fields of computer engineering and networking, and explores important, state-of-the-art developments in areas such as artificial intelligence, machine learning, information analysis and communication. It gathers papers presented at the 8th International Conference on Computer Engineering and Networks (CENet2018), held in Shanghai, China on August 17–19, 2018. • Explores emerging topics in computer engineering and networking, along with their applications • Discusses how to improve productivity by using the latest advanced technologies • Examines innovation in the fields of computer engineering and networking

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This two-volume set of LNCS 12509 and 12510 constitutes the refereed proceedings of the 15th International Symposium on Visual Computing, ISVC 2020, which was supposed to be held in San Diego, CA, USA in October 2020, took place virtually instead due to the COVID-19 pandemic. The 118 papers presented in these volumes were carefully reviewed and selected from 175 submissions. The papers are organized into the following topical sections: Part I: deep learning; segmentation; visualization; video analysis and event recognition; ST: computational bioimaging; applications; biometrics; motion and tracking; computer graphics; virtual reality; and ST: computer vision advances in geo-spatial applications and remote sensing Part II: object recognition/detection/categorization; 3D reconstruction; medical image analysis; vision for robotics; statistical pattern recognition; posters

Recent years have seen a vast development in various methodologies for object detection and feature extraction and recognition, both in theory and in practice. When processing images, videos, or other types of multimedia, one needs efficient solutions to perform fast and reliable processing. Computational intelligence is used for medical screening where the detection of disease symptoms is carried out, in prevention monitoring to detect suspicious behavior, in agriculture systems to help with growing plants and animal breeding, in transportation systems for the control of incoming and outgoing transportation, for unmanned vehicles to detect obstacles and avoid collisions, in optics and materials for the detection of surface damage, etc. In many cases, we use developed techniques which help us to recognize some special features. In the context of this innovative research on computational intelligence, the Special Issue "Advanced Computational Intelligence for Object Detection, Feature Extraction and Recognition in Smart Sensor Environments" present an excellent opportunity for the dissemination of recent results and achievements for further innovations and development. It is my pleasure to present this collection of excellent contributions to the research community. - Prof. Marcin Wo?niak, Silesian University of Technology, Poland –

This two-volume set of LNCS 12463 and LNCS 12464 constitutes - in conjunction with

the volume LNAI 12465 - the refereed proceedings of the 16th International Conference on Intelligent Computing, ICIC 2020, held in Bari, Italy, in October 2020. The 162 full papers of the three proceedings volumes were carefully reviewed and selected from 457 submissions. The ICIC theme unifies the picture of contemporary intelligent computing techniques as an integral concept that highlights the trends in advanced computational intelligence and bridges theoretical research with applications. The theme for this conference is "Advanced Intelligent Computing Methodologies and Applications." Papers related to this theme are especially solicited, addressing theories, methodologies, and applications in science and technology.

Conference Proceedings of 4th International Conference on Tourism Research

This book approaches its subject matter by promoting concepts, methods and solutions for the digital transformation of manufacturing through service orientation in holonic and agent-based control with distributed intelligence. The scientific theme of the book concerns "Manufacturing as a Service", developed by virtualizing and encapsulating manufacturing resources, activities and controls into cloud networked services in an open perspective that spans models from shop floor resource allocation to enterprise infrastructure sharing. The papers included in the application space have a profound human dedication and aim at solving societal needs serving the partnership of the future--people and industry in the era of Society 5.0. The book's readership includes researchers and engineers working in manufacturing, supply chains and logistics areas who innovate, develop and use digital control solutions and students enrolled in Engineering and Service Science programs.

Artificial intelligence has become an indispensible part of our lives in recent years, affecting all aspects from business and leisure to transport and health care. This book presents the proceedings of the 23rd edition of the International Conference of the Catalan Association for Artificial Intelligence (CCIA), an annual event that serves as a meeting point for researchers in Artificial Intelligence in the area of the Catalan speaking territories and from around the world. The 2021 edition was held online as a virtual conference from 20 - 22 October 2021 due to the COVID-19 pandemic. The book contains 42 long papers and 9 short papers, carefully reviewed and selected. The papers cover all aspects of artificial intelligence and are divided under six section headings: combinatorial problem solving and logics for artificial intelligence; sentiment analysis and tekst analysis; data science and decision support systems; machine learning; computer vision; and explainability and argumentation. Abstracts of the 2 invited talks delivered at the conference by Prof. Patty Kostkova and Prof. João Marques-Silva are also included. Offering a state of the art overview of the subject from a regional perspective, the book will be of interest to all those working in the field of artificial intelligence.

This book is a collection of outstanding papers presented at the 1st International Conference on Advances in Computational Intelligence and Informatics (ICACII 2019), organized by the Department of Computer Science & Engineering, Anurag Group of Institutions (AGI), Hyderabad, on 20–21 December 2019. It includes innovative ideas and new research findings in the field of Computational Intelligence and Informatics that will benefit researchers, scientists, technocrats, academics and engineers alike. The areas covered include high-performance systems, data science and analytics, computational intelligence and expert systems, cloud computing, computer networks

and emerging technologies.

Working Machines - An executive's guide to AI and Intelligent Automation, takes a look at how the renewed vigour for the development of Artificial Intelligence and Intelligent Automation technology has begun to change how businesses operate. It provides a step-by-step guide to building your own AI and Intelligent Automation strategies and frameworks, while also giving you insight into the way it is currently being used across multiple industries. This extensive guide is brought to you by the minds behind WeAreBrain and Tur.ai, experts in the AI, RPA and business automation fields.

This book constitutes the refereed proceedings of the 8th International Conference on Games and Learning Alliance, GALA 2019, held in Athens, Greece, in November 2019. The 38 regular papers presented together with 19 poster papers were carefully reviewed and selected from 76 submissions. The papers cover the following topics: serious game design and pedagogical foundations; AI and technology for SG; gamification; applications and case studies; and posters. The chapter "Cyber Chronix, Participatory Research Approach to Develop and Evaluate a Storytelling Game on Personal Data Protection Rights and Privacy Risks" is available open access under a CC BY 4.0 license at link.springer.com.

This book reflects the latest research trends, methods and experimental results in the field of electrical and information technologies for rail transportation, which covers abundant state-of-the-art research theories and ideas. As a vital field of research that is highly relevant to current developments in a number of technological domains, the subjects it covered include intelligent computing, information processing, Communication Technology, Automatic Control, etc. The objective of the proceedings is to provide a major interdisciplinary forum for researchers, engineers, academicians as well as industrial professionals to present the most innovative research and development in the field of rail transportation electrical and information technologies. Engineers and researchers in academia, industry, and the government will also explore an insight view of the solutions that combine ideas from multiple disciplines in this field. The volumes serve as an excellent reference work for researchers and graduate students working on rail transportation, electrical and information technologies.

This book is a comprehensive collection of chapters focusing on the core areas of computing and their further applications in the real world. Each chapter is a paper presented at the Computing Conference 2021 held on 15-16 July 2021. Computing 2021 attracted a total of 638 submissions which underwent a double-blind peer review process. Of those 638 submissions, 235 submissions have been selected to be included in this book. The goal of this conference is to give a platform to researchers with fundamental contributions and to be a premier venue for academic and industry practitioners to share new ideas and development experiences. We hope that readers find this volume interesting and valuable as it provides the state-of-the-art intelligent methods and techniques for solving real-world problems. We also expect that the conference and its publications is a trigger for further related research and technology improvements in this important subject. .

This two-volume set LNCS 12689-12690 constitutes the refereed proceedings of the 12th International Conference on Advances in Swarm Intelligence, ICSI 2021, held in Qingdao, China, in July 2021. The 104 full papers presented in this volume were carefully reviewed and selected from 177 submissions. They cover topics such as:

Swarm Intelligence and Nature-Inspired Computing; Swarm-based Computing Algorithms for Optimization; Particle Swarm Optimization; Ant Colony Optimization; Differential Evolution; Genetic Algorithm and Evolutionary Computation; Fireworks Algorithms; Brain Storm Optimization Algorithm; Bacterial Foraging Optimization Algorithm; DNA Computing Methods; Multi-Objective Optimization; Swarm Robotics and Multi-Agent System; UAV Cooperation and Control; Machine Learning; Data Mining; and Other Applications.

Two significant areas of study that are continually impacting various dimensions in computer science are computer vision and imaging. These technologies are rapidly enhancing how information and data is being exchanged and opening numerous avenues of advancement within areas such as multimedia and intelligent systems. The high level of applicability in computer vision and image processing requires significant research on the specific utilizations of these technologies. Advancements in Computer Vision Applications in Intelligent Systems and Multimedia Technologies is an essential reference source that discusses innovative developments in computational imaging for solving real-life issues and problems and addresses their execution in various disciplines. Featuring research on topics such as image modeling, remote sensing, and support vector machines, this book is ideally designed for IT specialists, scientists, researchers, engineers, developers, practitioners, industry professionals, academicians, and students seeking coverage on the latest developments and innovations in computer vision applications within the realm of multimedia systems.

This two-volume set LNICST 286-287 constitutes the post-conference proceedings of the First EAI International Conference on Artificial Intelligence for Communications and Networks, AICON 2019, held in Harbin, China, in May 2019. The 93 full papers were carefully reviewed and selected from 152 submissions. The papers are organized in topical sections on artificial intelligence, mobile network, deep learning, machine learning, wireless communication, cognitive radio, internet of things, big data, communication system, pattern recognition, channel model, beamforming, signal processing, 5G, mobile management, resource management, wireless position.

This book collects selected papers from the 6th Conference on Signal and Information Processing, Networking and Computers, held in Guiyang, China, on August 13 - 16, 2019. Focusing on the latest advances in information theory, communication systems, computer science, aerospace technologies, big data and other related technologies, it offers a valuable resource for researchers and industrial practitioners alike.

This proceedings book presents selected papers from the 4th Conference on Signal and Information Processing, Networking and Computers (ICSINC) held in Qingdao, China on May 23–25, 2018. It focuses on the current research in a wide range of areas related to information theory, communication systems, computer science, signal processing, aerospace technologies, and other related

technologies. With contributions from experts from both academia and industry, it is a valuable resource anyone interested in this field.

This book brings together papers from the 2019 International Conference on Communications, Signal Processing, and Systems, which was held in Urumqi, China, on July 20–22, 2019. Presenting the latest developments and discussing the interactions and links between these multidisciplinary fields, the book spans topics ranging from communications to signal processing and systems. It is chiefly intended for undergraduate and graduate students in electrical engineering, computer science and mathematics, researchers and engineers from academia and industry, as well as government employees.

This book provides a thorough overview of cutting-edge research on electronics applications relevant to industry, the environment, and society at large. It covers a broad spectrum of application domains, from automotive to space and from health to security, while devoting special attention to the use of embedded devices and sensors for imaging, communication and control. The book is based on the 2020 ApplePies Conference, held online in November 2020, which brought together researchers and stakeholders to consider the most significant current trends in the field of applied electronics and to debate visions for the future. Areas addressed by the conference included information communication technology; biotechnology and biomedical imaging; space; secure, clean and efficient energy; the environment; and smart, green and integrated transport. As electronics technology continues to develop apace, constantly meeting previously unthinkable targets, further attention needs to be directed toward the electronics applications and the development of systems that facilitate human activities. This book, written by industrial and academic professionals, represents a valuable contribution in this endeavor.

This book features high-quality research papers presented at the 3rd International Conference on Computational Intelligence in Pattern Recognition (CIPR 2021), held at the Institute of Engineering and Management, Kolkata, West Bengal, India, on 24 – 25 April 2021. It includes practical development experiences in various areas of data analysis and pattern recognition, focusing on soft computing technologies, clustering and classification algorithms, rough set and fuzzy set theory, evolutionary computations, neural science and neural network systems, image processing, combinatorial pattern matching, social network analysis, audio and video data analysis, data mining in dynamic environments, bioinformatics, hybrid computing, big data analytics and deep learning. It also provides innovative solutions to the challenges in these areas and discusses recent developments.

Functional Pavements is a collection of papers presented at the 6th Chinese-European Workshop (CEW) on Functional Pavement Design (Nanjing, China, October 18-21, 2020). The focus of the CEW series is on field tests, laboratory test methods and advanced analysis techniques, and cover analysis, material development and production, experimental characterization, design and

construction of pavements. The main areas covered by the book include: • Asphalt binders for flexible pavements • Asphalt mixture evaluation and performance • Pavement construction and maintenance • Pavement Surface Properties and Vehicle Interaction • Cementitious materials for rigid pavements • Pavement geotechnics and environment Functional Pavements aims at contributing to the establishment of a new generation of pavement design methodologies in which rational mechanics principles, advanced constitutive models and advanced material characterization techniques shall constitute the backbone of the design process. The book will be much of interest to professionals, academics and practitioners in pavement engineering and related disciplines as it should assist them in providing improved road pavement infrastructure to their stakeholders.

This book includes the post-conference proceedings of the 23rd RoboCup International Symposium, held in Sydney, NSW, Australia, in July 2019. The 38 full revised papers and 14 invited papers presented in this book were carefully reviewed and selected from 74 submissions. This book highlights the approaches of champion teams from the competitions and documents the proceedings of the 23rd annual RoboCup International Symposium. Due to the complex research challenges set by the RoboCup initiative, the RoboCup International Symposium offers a unique perspective for exploring scientific and engineering principles underlying advanced robotic and AI systems.

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