

1. Record Nr.	UNISA996464487903316
Titolo	Artificial intelligence applications and innovations : AIAI 2021 IFIP WG 12.5 international workshops, 5G-PINE 2021, AI-BIO 2021, DAAI 2021, DARE 2021, EEAI 2021, and MHDW 2021, Hersonissos, Crete, Greece, June 25-27, 2021, proceedings / / edited by Ilias Maglogiannis, John Macintyre, and Lazaros Iliadis
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-79157-2
Descrizione fisica	1 online resource (507 pages)
Collana	IFIP Advances in Information and Communication Technology ; ; v.628
Disciplina	006.3
Soggetti	Artificial intelligence
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- 6th Workshop on "5G - Putting Intelligence to the Network Edge" (5G-PINE 2021) -- 5G-PINE 2021 Workshop -- Organization -- Workshop Co-chairs -- 5G Communications as "Enabler" for Smart Power Grids: The Case of the Smart5Grid Project -- 1 Introduction -- 2 Smart5Grid: An Innovative Context for the Energy Ecosystem -- 3 Smart5Grid Use Cases -- 3.1 Use Case 1: Automatic Power Distribution Grid Fault Detection -- 3.2 Use Case 2: Remote Inspection of Automatically Delimited Working Areas at Distribution Level -- 3.3 Use Case 3: Millisecond Level Precise Distribution Generation Control -- 3.4 Use Case 4: Real-Time Wide Area Millisecond Level Precise Distribution Generation Control -- 4 Concluding Remarks -- References -- 5G-VICTORI: Future Railway Communications Requirements Driving 5G Deployments in Railways -- 1 Introduction -- 2 Railway Vertical Services and Requirements in 5G-VICTORI -- 2.1 Vertical Services, Requirements and KPIs -- 2.2 Network Deployment Requirements and Options -- 3 5G-VICTORI Deployment for FRMCS -- 4 Further Challenges and Requirements -- 5 Conclusions -- References -- 5G-VICTORI: Optimizing Media Streaming in Mobile Environments Using mmWave, NBMP and 5G Edge Computing -- 1 Introduction -- 2

Background and Concepts -- 2.1 Data Shower and Multi-CDN -- 2.2 Streaming Monitoring and Analytics via MPEG-SAND -- 2.3 Network-Based Media Processing - NBMP -- 3 Data Shower Architecture and Deployment -- 4 Conclusion -- References -- A Novel Architectural Approach for the Provision of Scalable and Automated Network Slice Management, in 5G and Beyond -- 1 Introduction -- 2 Zero-Touch Management in the Scope of the MonB5G Project -- 3 Architectural Framework -- 4 Assessment and Further Expectations -- References.

A Prototype 5G/IoT Implementation for Transforming a Legacy Facility to a Smart Factory -- 1 Introduction -- 2 Specific Use Case -- 3 High Level Architecture -- 4 Infrastructure/Testbed -- 5 Scenarios -- 6 Conclusions and Future Work -- References -- Advanced First Responders' Services by Using FASTER Project Architectural Solution -- 1 Introduction -- 2 FASTER 5G-Enabling Network -- 3 FASTER QoS Monitoring Framework -- 4 Conclusion -- References -- High Mobility 5G Services for Vertical Industries - Network Operator's View -- 1 Introduction -- 2 Overview of the Vertical Industries in Focus -- 2.1 Automotive Sector -- 2.2 Unmanned Aviation Sector -- 3 3GPP 5GS Support of Vertical Industries in Focus -- 3.1 Approach to the Requirements -- 3.2 Implementation of Requirements - Architecture and Mechanisms -- 4 Key Gaps and Challenges -- 4.1 Network Slicing -- 4.2 RAN Mechanisms -- 4.3 Specific Architectural Support of V2X/UAV Use Cases -- 4.4 Multi-Access Edge Computing -- 4.5 Agile Management and Provisioning Architecture -- 5 Conclusions -- References -- Machine Learning-Based, Networking and Computing Infrastructure Resource Management -- 1 Introduction -- 2 Cell-Free Networking in Dense and Ultra-Dense Hotspot Areas -- 2.1 Dense User-Generated Content Distribution with mmWave Fronthauling -- 2.2 Ultra-Dense Video Traffic Delivery in a Converged Fixed-Mobile Network -- 3 Cognitive Assistance and Its Security and Privacy Implications in 5G and Beyond -- 3.1 Cognitive Assistance and Smart Connectivity for Next-Generation Sightseeing -- 3.2 Data Security and Privacy in Multi-tenant Infrastructures -- 4 Discussion -- References -- Power Control in 5G Heterogeneous Cells Considering User Demands Using Deep Reinforcement Learning -- 1 Introduction -- 2 System Model and Algorithm Description -- 2.1 System Model -- 2.2 Problem Formulation.

2.3 Deep Q-Learning Framework and Algorithm Outline -- 3 Simulation Results -- 4 Conclusion -- References -- The Challenge of Security Breaches in the Era of 5G Networking -- 1 Introduction -- 2 Main Entities of the RESISTO Platform -- 3 The 5G Threat Landscape -- 3.1 5G Network Response to a Security Breach -- 4 Discussion -- References -- Top Challenges in 5G Densification -- 1 Introduction -- 2 Telecom Operators' Challenges Associated with 5G Densification -- 2.1 Site Acquisition at Street Level (Including Power Supply and Transport Capabilities) and Licensing -- 2.2 Aesthetic Impact and Other Social/public Issues -- 2.3 Energy Consumption Demand (and Energy Optimization) -- 2.4 Service Continuity Related to Power Issues -- 2.5 Increased Network Planning, Deployment and Optimization Complexity -- 2.6 Spectrum Related Issues -- 2.7 Huge CAPEX and OPEX -- 3 5G-PHOS Solution Overview -- 4 5G-PHOS Densification Figures -- 5 Summary -- References -- TYPHON: Hybrid Data Lakes for Real-Time Big Data Analytics - An Evaluation Framework in the Telecom Industry -- 1 Introduction -- 2 Related Work and Current Status -- 3 TYPHON and OTS Solutions at OTE -- 4 Our Evaluation Framework -- 4.1 Deployment Architecture -- 4.2 Use Cases -- 4.3 Scenarios -- 5 Evaluation Measurements Insights -- 6

New Capabilities Adopting TYPHON Technologies -- 6.1 Benefits for Users/Customers -- 6.2 Benefits for OTE -- 7 Conclusion --
 References -- V2X Communications for the Support of GLOSA and Intelligent Intersection Applications -- 1 Introduction -- 2 V2X Communications in the 5G Era -- 3 5G-DRIVE's Implementation of V2X Communications -- 4 GLOSA and Intelligent Intersection V2X Use Cases -- 5 Concluding Remarks -- References -- Artificial Intelligence in Biomedical Engineering and Informatics Workshop (AI-BIO 2021) -- - D 2021 Workshop -- Organization -- Workshop Chairs.
 A Machine Learning Approach for Recognition of Elders' Activities Using Passive Sensors -- 1 Introduction -- 2 Dataset -- 2.1 The Sensor Platform - Hardware Description -- 2.2 Rooms Setting -- 2.3 Dataset Features -- 2.4 Dataset Pre-processing -- 3 Classification Model -- 3.1 Bagged Trees -- 3.2 Tuning of Hyperparameters -- 3.3 Evaluation of the Proposed Algorithm -- 4 Experimental Results -- 5 Conclusion and Future Work -- References -- Analyzing Collective Knowledge Towards Public Health Policy Making -- 1 Introduction -- 2 Literature Review -- 2.1 Electronic Health Records and Personal Health Records -- 2.2 Public Health Policies -- 2.3 Advancements of Proposed System -- 3 Proposed System -- 3.1 System Architecture -- 3.2 System Functionalities -- 4 Conclusions -- References -- Evaluating Mental Patients Utilizing Video Analysis of Facial Expressions -- 1 Introduction -- 2 Related Work -- 3 Methodology -- 3.1 Overview -- 3.2 Data Processing -- 3.3 Frame Representation -- 3.4 Video Representation -- 3.5 Classification -- 4 Experimental Results -- 5 Interpretability -- 6 Conclusion -- References -- An Inception-Based Architecture for Haemodialysis Time Series Classification -- 1 Introduction -- 2 Background and Related Work -- 2.1 Convolutional Neural Networks -- 2.2 Inception Networks -- 3 Inception-Based Classification -- 4 Results -- 5 Conclusions -- References -- Workshop on Defense Applications in AI (DAAI 2021) -- En -- Committee -- Topics of Interest -- Keynote Speakers under the DAAI 2021 Workshop -- Artificial Intelligence Cybersecurity Challenges -- Application of AI for GEOINT Services in the Space and Security Domain -- A Lipschitz - Shapley Explainable Defense Methodology Against Adversarial Attacks -- 1 Introduction -- 2 Proposed Method -- 3 Experiments -- 4 Conclusions -- References.
 A Multimodal AI-Leveraged Counter-UAV Framework for Diverse Environments -- 1 Introduction -- 2 Literature Review -- 3 Description of the Environment and Sensing Methodologies -- 3.1 Multi-sensory Technology -- 3.2 UAV Flight Regions -- 4 Deep Learning Technology for UAV Detection -- 4.1 Training Data -- 4.2 UAV Detection Algorithm Architecture -- 5 Experimental Process and Results -- 6 Discussion and Recommendations -- References -- Cyber Attack Detection and Trust Management Toolkit for Defence-Related Microgrids -- 1 Introduction -- 2 Related Works -- 3 System Architecture -- 3.1 Anomaly Detection Module -- 3.2 GTM Engine -- 4 Evaluation -- 5 Conclusions -- References -- On the Potential of SDN Enabled Network Deployment in Tactical Environments -- 1 Introduction -- 2 Background and Related Work -- 3 Defense SDN Enabled Network -- 3.1 Proposed SDN Topology -- 3.2 AI Enabled SDN Routing -- 4 Evaluation Scenarios -- 5 Conclusions -- References -- Distributed AI for Resource - Constrained Platforms Workshop (DARE 2021) -- DARE 2021 Workshop -- Organization -- Program Committee -- A First Sensitivity Study of Multi-object Multi-camera Tracking Performance -- 1 Introduction -- 2 Related Work -- 3 Experimental Setup -- 3.1 OpenVINOTM Toolkit -- 3.2 OpenVINOTM Models -- 3.3 Multi-object Tracking Metrics -- 3.4 Variables Space -- 3.5 Video Samples and Results Collection -- 4 Results and Analysis -- 4.1 Frames Processing

Time -- 4.2 Number of People and Speed Variation -- 4.3 Overlap
Level Variation -- 4.4 Frame-Rate Variation -- 4.5 Other Variations --
5 Conclusion -- References -- An Initial Analysis of the Shortcomings
of Conventional AI and the Benefits of Distributed AI Approaches
in Industrial Use Cases -- 1 Introduction -- 2 MIRAI Use Cases
and Rationale for Distributed AI -- 2.1 Use Case 1: Distributed
Renewable Energy Systems.
2.2 Use Case 2: Secure Internet Provisioning.
