

1. Record Nr.	UNINA9910580148103321
Titolo	Artificial Intelligence and Security : 8th International Conference, ICAIS 2022, Qinghai, China, July 15–20, 2022, Proceedings, Part II // edited by Xingming Sun, Xiaorui Zhang, Zhihua Xia, Elisa Bertino
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2022
ISBN	3-031-06788-6
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (701 pages)
Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 13339
Disciplina	006.3 005.8
Soggetti	Artificial intelligence Computer engineering Computer networks Data protection Artificial Intelligence Computer Engineering and Networks Data and Information Security
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Organization -- Contents - Part II -- Artificial Intelligence -- Remface: Study on Mini-sized Mobilenetv2 and Retinaface -- 1 Introduction -- 2 Related Works -- 2.1 Background Researches -- 2.2 Description of RetinaFace Model -- 2.3 Loss Function -- 2.4 Anchor Box -- 2.5 MobileNet -- 3 Related Works -- 3.1 Theory of the MobileNetV2 -- 3.2 Mini-MV2 -- 3.3 Improved Fusion of Mini-MV2 with RetinaFace -- 4 Related Works -- 5 Conclusion -- References -- Research on Application of Principal Component Analysis in 3d Video Dimension Reduction -- 1 Introduction -- 2 Commonly Used Video Image Dimensionality Reduction Method -- 2.1 Classification of Dimensionality Reduction Methods -- 2.2 The Effect of Dimension Reduction -- 2.3 Purpose of Dimension Reduction -- 2.4 Application Scope of Principal Component Analysis -- 2.5 Principal Component Analysis Method --

2.6 Assumptions for PCA Application -- 3 Work Flow and Principle of Principal Component Analysis -- 3.1 Principal Component Analysis Workflow -- 3.2 Principle of Principal Component Analysis -- 4 Application Effect of Principal Component Analysis in 3d Video Image Dimensionality Reduction -- 5 Conclusion -- References -- Single Platform Passive Location Algorithm Using Position Information and Azimuth -- 1 Introduction -- 2 Target Location Calculation Method -- 2.1 Storage of Sensor Incoming Longitude, Latitude and Azimuth Data Using Sliding Time Windows -- 2.2 Datum Point Establishment -- 2.3 The Solution of r and -- 2.4 Using Linear Regression to Obtain the Anti-noise R -- 2.5 Determine if R Has Converged -- 2.6 Use R and Azimuth to Derive the Target Position -- 3 Simulation Experiment -- 4 Conclusion -- References -- DCAL: A New Method for Defending Against Adversarial Examples -- 1 Introduction -- 2 Related Work -- 2.1 Adversarial Examples -- 2.2 Adversarial Attack Algorithm. 2.3 Existing Methods for Defenses -- 3 Method -- 3.1 Overview -- 3.2 Objective Function -- 4 Experiments -- 4.1 Dataset -- 4.2 Defense Evaluation -- 5 Conclusion -- References -- Anomaly Detection Model for Key Places Based on Improved YOLOv5 -- 1 Introduction -- 2 Related Work -- 3 Anomaly Detection Models and Improvements -- 3.1 Network Structure of YOLOv5 -- 3.2 YOLOv5 Algorithm Improvements -- 3.3 Improving the FPN Structure -- 4 Experimental Procedure and Results -- 4.1 Experimental Preparation -- 4.2 Simulation and Experimental Results -- 5 Conclusion -- 5.1 Internet-Related Terrorist Content Remains a Concern and is Being Addressed -- 5.2 Existing Problems and Future Prospects -- References -- Non-contact Heart Rate Detection Based on Fusion Method of Visible Images and Infrared Images -- 1 Introduction -- 2 Related Work -- 2.1 Related Work About Non-contact Heart Rate Detection -- 2.2 Related Work About Fusion of Infrared Images and Visible Images -- 3 Heart Rate Detection Algorithm -- 4 Image Fusion Algorithm -- 4.1 A Subsection Sample -- 4.2 Fusion Method in the Fusion Layer -- 4.3 Loss Function -- 5 First Section -- 5.1 Experimental Equipment -- 5.2 Experimental Process and Results -- 6 Conclusion -- References -- Intelligent Data Analysis System Based on Edge Computing -- 1 Introduction -- 1.1 Background -- 1.2 Related Work -- 2 Solution: Intelligent Data Analysis System Based on Edge Computing -- 2.1 System Architecture -- 2.2 Edge AI -- 3 Experiments and Analysis -- 3.1 Data Sets and Requirements -- 3.2 Experimental Result -- 3.3 Conclusions -- References -- Portfolio Optimization Based on Quantum HHL Algorithm -- 1 Introduction -- 2 Algorithm Description -- 3 Models and Solution -- 3.1 Model -- 3.2 Problem Setting -- 4 Conclusion -- References. Infrared Ship Video Target Tracking Based on Cross-Connection and Spatial Transformer Network -- 1 Introduction -- 2 Related Work -- 3 IR Ship Video Target Tracking Method Based on Cross-Connection and Spatial Transformer Network -- 3.1 Feature Extraction Module Based on Cross-Layer Connection -- 3.2 Feature Extraction Module Based on Spatial Transformer Network -- 4 Experiments -- 4.1 Data Set Introduction -- 4.2 Comparison Results with Other Methods -- 4.3 The Influence of Different Cross-Layer Connections -- 4.4 The Influence of Spatially Transform Network -- 5 Conclusion -- References -- Whale Optimization Algorithm Based on Artificial Fish Swarm Algorithm -- 1 Introduction -- 2 Overview of Traditional Whale Algorithm and Artificial Fish Swarm Algorithm -- 2.1 Overview of Traditional Whale Algorithm -- 2.2 Overview of Artificial Fish School Algorithm -- 3 The New Whale Optimization Algorithm -- 3.1 Model Design of Optimization Algorithm -- 3.2 The Specific Optimization Process of the Algorithm -- 4 Application of NWOA in the Scenario

of Scenic Route Planning -- 4.1 Construction of Application Scenarios
-- 4.2 Specific Application of NWOA -- 5 Experimental Simulation
and Result Analysis -- 5.1 Experimental Parameter Settings -- 5.2
Benchmark Function -- 5.3 Experimental Results and Analysis -- 6
Conclusions -- References -- An Underwater Image Color Correction
Algorithm Based on Underwater Scene Prior and Residual Network -- 1
Introduction -- 2 Underwater Image Imaging Model -- 3 Proposed
Method -- 3.1 Network Architecture -- 3.2 Model Detail -- 3.3
Synthetic Dataset -- 4 Experimental Results and Analysis -- 4.1
Synthetic Underwater Image Evaluation Results -- 4.2 Real Underwater
Image Evaluation Results -- 5 Conclusion -- References --
An Improved TextRank-Based Method for Chinese Text Summarization
-- 1 Introduction -- 2 Related Works.
2.1 Text Segmentation Based on N-Gram -- 2.2 Text Summarization
Based on TextRank -- 3 Chinese Text Summarization Using Improved
TextRank -- 3.1 Basic Principle -- 3.2 Chinese Word Segmentation
Optimization -- 3.3 A Subsection Sample -- 4 Experimental Results
and Analysis -- 4.1 Experimental Preparation -- 4.2 Results
and Discussion -- 5 Conclusion -- References -- Lhasa Dialect
Recognition of Different Phonemes Based on TDNN Method -- 1
Introduction -- 2 Lhasa Tibetan Phones -- 2.1 Linguistic Unit -- 2.2
Different Phoneme Sets -- 3 Combining Vowels and Consonants (VC)
-- 3.1 Corpus Text Design -- 3.2 Experimental Data -- 3.3 GMM-HMM
Setup -- 3.4 DNN-HMM Setup -- 3.5 TDNN-HMM Setup -- 4
Experimental Results -- 5 Conclusion -- References -- A Power Grid
Equipment Fault Prediction Model Based on Faster RCNN and Video
Streaming -- 1 Introduction -- 2 Preliminaries -- 2.1 Faster RCNN
Structure -- 2.2 Feature Extraction -- 2.3 Region Proposal Network
(RPN) -- 2.4 Classification Detection -- 3 A Power Grid Equipment Fault
Prediction Model Based on Faster RCNN -- 3.1 The Power Grid
Equipment Fault Prediction Model -- 3.2 Dataset Processing -- 3.3
Feature Extraction -- 3.4 Region Proposal Network (RPN) -- 4
Experiments and Results -- 4.1 Experiment Platform and Dataset --
4.2 Result Analysis -- 5 Conclusion -- References -- A Wireless
Transmission Model of Power Grid Equipment State Based
on Compressed Sensing -- 1 Introduction -- 2 Preliminaries -- 2.1
Sparse Decomposition -- 2.2 Reconstruction Algorithm -- 3 A Wireless
Transmission Model of Power Grid Equipment State Based
on Compressed Sensing -- 3.1 The Wireless Transmission Model
of Power Grid Equipment State -- 3.2 Dataset Processing -- 3.3 Sparse
Decomposition -- 3.4 Measurement Matrix -- 3.5 Online Monitoring --
4 Simulation Experiment and Result Analysis.
4.1 Experiment Platform and Power Grid Equipment Dataset -- 4.2
Performance Comparison -- 4.3 Reconstruction Effect -- 5 Conclusion
-- References -- Multi-sequence Satellite Image Cloud Removal Based
on Dual Residual Network -- 1 Introduction -- 1.1 Traditional Method
-- 1.2 Traditional Method -- 2 Method -- 2.1 Residual Connection --
2.2 Dual Residual Block -- 2.3 Sub-pixel Unsampling -- 3 Experiment
and Evaluation -- 3.1 Sentinel-2 Cloudy Dataset -- 3.2 Data
Enhancement -- 3.3 Residual Connection -- 3.4 Implementation Details
-- 3.5 Result -- 4 Conclusion -- References -- Research on Rumor
Detection Based on RoBERTa-BiGRU Model -- 1 Introduction -- 2
Related Work -- 3 Microblog Text Rumors Detection Model -- 3.1
Concrete Model -- 3.2 Text Processing Layer -- 3.3 RoBERTa Text Pre-
training Layer -- 3.4 BiGRU Layer -- 3.5 Output Layer -- 4 Simulation
Experiment Environment -- 4.1 Simulation Experiment Equipment --
4.2 Data Set -- 4.3 Experiment Parameter -- 4.4 Contrast Experiment
-- 5 Conclusion -- References -- A Novel Pruning Method Based

on Correlation Applied in Full-Connection Layer Neurons -- 1
Introduction -- 2 Related Work -- 3 A Pruning Method Based
on Neuron Correlation -- 3.1 Neuronal Importance Order -- 3.2
Pruning Criterion -- 4 Experiments -- 4.1 Experimental Setup -- 4.2
Comparison Experiment -- 5 Conclusion -- References -- Big Data --
Research and Application of Carrier User Viscosity Evaluation Method
Based on CNN Algorithm Model -- 1 Overview -- 2 Current Situation
and Problems of Existing User Viscosity Evaluation Methods -- 3
Method and Design -- 4 The Design of Technical Methods -- 4.1
Summary of Technical Methods -- 4.2 Sample Data -- 4.3 Algorithm
Model Construction and Principle -- 5 Application of Technical
Methods -- 5.1 The Data Source -- 5.2 Model Index Design -- 5.3
Data Sample Processing and Segmentation.
5.4 Model Evaluation Index.

Sommario/riassunto

This three-volume set LNCS 13338-13340 constitutes the thoroughly refereed proceedings of the 8th International Conference on Artificial Intelligence and Security, ICAIS 2022, which was held in Qinghai, China, in July 2022. The total of 166 papers included in the 3 volumes were carefully reviewed and selected from 1124 submissions. The papers present research, development, and applications in the fields of artificial intelligence and information security.
