

1. Record Nr.	UNINA9910503009403321
Titolo	Progress in artificial intelligence : 20th EPIA Conference on Artificial Intelligence, EPIA 2021, Virtual Event, September 7-9, 2021, proceedings. // Goretì Marreiros [and four others]
Pubbl/distr/stampa	Cham, Switzerland : , : Springer International Publishing, , [2021] ©2021
ISBN	3-030-86230-5
Descrizione fisica	1 online resource (815 pages)
Collana	Lecture Notes in Computer Science ; ; v.12981
Disciplina	006.3
Soggetti	Artificial intelligence Artificial intelligence - Data processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Organization -- Abstracts of Invited Speakers -- Responsible AI: From Principles to Action -- Trustworthy Human-Centric AI - The European Approach -- Multimodal Simultaneous Machine Translation -- Factored Value Functions for Cooperative Multi-agent Reinforcement Learning -- Contents -- Artificial Intelligence and IoT in Agriculture -- Autonomous Robot Visual-Only Guidance in Agriculture Using Vanishing Point Estimation -- 1 Introduction -- 2 Related Work -- 3 Visual Steering on Agriculture: The Main Approach -- 3.1 Hardware -- 3.2 Vanishing Point Detection -- 3.3 Autonomous Guidance -- 4 Results -- 4.1 Methodology -- 4.2 Base Trunk Detection -- 4.3 Vanishing Point Estimation -- 4.4 Autonomous Guidance Performance -- 5 Conclusions -- References -- Terrace Vineyards Detection from UAV Imagery Using Machine Learning: A Preliminary Approach -- 1 Introduction -- 2 Background -- 2.1 UAV Sensors -- 2.2 Machine Learning in Agriculture -- 3 Materials and Methods -- 3.1 UAV Data Acquisition and Processing -- 3.2 Dataset -- 3.3 Machine Learning Approach -- 3.4 Classifier -- 4 Results and Discussion -- 5 Conclusions and Future Work -- References -- Tomato Detection Using Deep Learning for Robotics Application -- 1 Introduction -- 2 State of the Art -- 3 Materials and Methods -- 3.1 Data Acquisition and Processing -- 3.2 Training and Evaluating DL Models -- 4 Results and

Discussion -- 5 Conclusion -- References -- Predicting Predawn Leaf Water Potential up to Seven Days Using Machine Learning -- 1 Introduction -- 2 Background Concept -- 3 Materials and Methods -- 3.1 Experimental Field -- 3.2 Data Visualization and Summarization -- 3.3 Problem Definition and Feature Engineering -- 4 Experiments -- 4.1 Fill the Gaps -- 4.2 Seven Days Prediction -- 5 Results and Discussion -- 5.1 Algorithms Comparison and Variable Importance. 5.2 Models Validation -- 5.3 Error Analysis -- 6 Conclusion and Future Work -- 6.1 Future Work -- References -- Artificial Intelligence and Law -- Towards Ethical Judicial Analytics: Assessing Readability of Immigration and Asylum Decisions in the United Kingdom -- 1 Introduction -- 2 Assessing Readability, and Judicial Analytics -- 2.1 Development and Critique of Readability Formulas -- 2.2 Previous Work Assessing the Readability of Legal Texts -- 2.3 Potential Pitfalls of Judicial Analytics -- 2.4 Lessons from the Literature -- 3 Ethical Judicial Analytics -- 3.1 Replicating Previous Work -- 3.2 Dataset and Analysis -- 3.3 Results -- 3.4 Interpretation and Critical Discussion of Results -- 3.5 Addressing Limitations of Standard Readability Formulas Through the Use of ML Approaches -- 3.6 Ethical Considerations in Judicial Analytics -- 4 Conclusions: Developing Ethical Judicial Analytics in Service of the Stakeholders of the Legal System -- References -- A Comparison of Classification Methods Applied to Legal Text Data -- 1 Introduction -- 2 Related Work -- 3 Theoretical Basis -- 3.1 Artificial Neural Networks -- 3.2 Dropout -- 3.3 Support Vector Machine -- 3.4 K-Nearest Neighbors -- 3.5 Naive Bayes -- 3.6 Decision Tree -- 3.7 Random Forest -- 3.8 Adaboost -- 3.9 Term Frequency - Inverse Document Frequency -- 4 Methodology -- 4.1 Type of Study -- 4.2 Dataset -- 4.3 Evaluation Measures -- 4.4 Machine Learning Pipeline -- 5 Results -- 6 Conclusions -- References -- Artificial Intelligence in Medicine -- Aiding Clinical Triage with Text Classification -- 1 Introduction -- 2 Related Work -- 3 Materials and Methods -- 3.1 Available Data -- 3.2 Task -- 3.3 Dataset -- 3.4 Text Representation -- 3.5 Experiments -- 3.6 Experimental Setup -- 4 Results -- 4.1 Find the "Best" Algorithm and Representation -- 4.2 Fine-Tuning the Embedding Model. 4.3 Considering the Most Probable Clinical Pathways -- 5 Discussion -- 6 Conclusions -- References -- A Web-based Telepsychology Platform Prototype Using Cloud Computing and Deep Learning Tools -- 1 Introduction -- 2 Description of the System -- 2.1 Cloud-Based Backend Software Architecture -- 2.2 Web Client as Frontend -- 2.3 Biomedical Parameters Acquisition -- 3 Results -- 4 Conclusions and Future Work -- References -- Detecting, Predicting, and Preventing Driver Drowsiness with Wrist-Wearable Devices -- 1 Introduction -- 2 Related Work -- 2.1 Measurement of Driver Drowsiness -- 2.2 Drowsiness Detection -- 2.3 Drowsiness Prediction -- 2.4 Sleep Staging -- 3 Methodology -- 4 Results -- 5 Conclusion -- References -- The Evolution of Artificial Intelligence in Medical Informatics: A Bibliometric Analysis -- 1 Introduction -- 2 A Brief History of AI in Healthcare -- 3 Related Work -- 4 Methodology -- 5 Results -- 6 Discussion -- 7 Conclusion -- References -- Artificial Intelligence in Power and Energy Systems -- Optimizing Energy Consumption of Household Appliances Using PSO and GWO -- 1 Introduction -- 2 Related Work -- 3 Proposed Methodology -- 3.1 Swarm Intelligence Optimization Algorithms -- 3.2 Mathematical Model -- 4 Case Study -- 5 Results and Discussion -- 6 Conclusions -- References -- Metaheuristics for Optimal Scheduling of Appliances in Energy Efficient Neighbourhoods -- 1 Introduction -- 2 Related Work -- 3 Problem Definition -- 3.1 Representation of the Solution and Objective Function

-- 3.2 Constraints -- 3.3 Search Space -- 3.4 Algorithms for Solving the Problem -- 4 Experimental Setup -- 5 Results and Discussion -- 6 Conclusion -- References -- Multitask Learning for Predicting Natural Flows: A Case Study at Paraiba do Sul River -- 1 Introduction -- 2 Materials and Methods -- 2.1 Study Area and Data -- 2.2 Streamflow Estimation Model.

3 Computational Experiments -- 4 Conclusion -- References -- PV Generation Forecasting Model for Energy Management in Buildings -- 1 Introduction -- 2 SCADA System -- 3 Solar Forecasting Model -- 4 Case Study -- 5 Conclusions -- References -- Automatic Evolutionary Settings of Machine Learning Methods for Buildings' Thermal Loads Prediction -- 1 Introduction -- 2 Methods -- 2.1 Dataset -- 2.2 Machine Learning Methods -- 2.3 Model Selection Based on Differential Evolution -- 3 Computational Experiments -- 4 Conclusion -- References -- Artificial Intelligence in Transportation Systems -- Minimising Fleet Times in Multi-depot Pickup and Dropoff Problems -- 1 Introduction -- 2 Related Work -- 3 Preliminaries for MDPDPs -- 3.1 Routing Plans -- 3.2 Fleet Objectives -- 4 New Datasets for MDPDPs -- 5 Genetic Template for MDPDPs -- 6 Experiments for MDPDPs -- 6.1 Objective Values -- 6.2 Sharing Rates -- 6.3 Fleet Busyness -- 6.4 Fleet Size -- 7 Conclusions -- References -- Solving a Bilevel Problem with Station Location and Vehicle Routing Using Variable Neighborhood Descent and Ant Colony Optimization -- 1 Introduction -- 2 Related Work -- 3 Bilevel Problem: Station Location and Vehicle Routing -- 4 Proposed Bilevel Approach -- 4.1 Variable Neighborhood Descent for Station Allocation -- 4.2 Ant Colony Optimization for Routing Planning -- 4.3 Local Search Procedures and Route Selection -- 5 Computational Experiments -- 5.1 Analysis of the Results -- 6 Concluding Remarks and Future Works -- References -- Artificial Life and Evolutionary Algorithms -- Genetic Programming for Feature Extraction in Motor Imagery Brain-Computer Interface -- 1 Introduction -- 2 The Clinical Brain-Computer Interface Dataset -- 3 Data Preprocessing -- 3.1 Band-Pass Filter -- 3.2 Wavelet Transform -- 4 Sigmoid Single Electrode Energy -- 5 Genetic Programming.

6 Proposed Single Feature Genetic Programming -- 7 Computational Experiments -- 7.1 Dimension of the Problem -- 8 Conclusions -- References -- FERMAT: Feature Engineering with Grammatical Evolution -- 1 Introduction -- 2 Related Work -- 2.1 AutoML - Automated Machine Learning -- 2.2 Structured Grammatical Evolution -- 2.3 Drug Development -- 3 FERMAT -- 4 Experimental Settings -- 5 Results -- 5.1 Feature Engineering -- 5.2 Absolute Performance -- 6 Conclusions -- References -- Ambient Intelligence and Affective Environments -- A Reputation Score Proposal for Online Video Platforms -- 1 Introduction -- 2 Related Works -- 2.1 Commercial Proposals -- 2.2 Academic Proposals -- 3 The Platform -- 4 Implementation -- 4.1 Essential Factors -- 4.2 Mapping Functions -- 4.3 Defined Metrics -- 4.4 Generalisation Potential and Risks -- 5 Conclusions and Future Work -- References -- A Reinforcement Learning Approach to Improve User Achievement of Health-Related Goals -- 1 Introduction -- 2 Proposed Model -- 2.1 Personal Agent -- 2.2 Coaching Agent -- 3 Results and Discussion -- 4 Conclusions and Future Work -- References -- Urban Human Mobility Modelling and Prediction: Impact of Comfort and Well-Being Indicators -- 1 Introduction -- 2 State of the Art -- 2.1 Crowdsensing Infrastructures -- 2.2 Well-Being and Comfort -- 3 Experimental Case Study -- 3.1 Data Collection -- 3.2 Data Pre-processing -- 3.3 Building the Models -- 3.4 Results -- 4 Discussion -- 5 Conclusions -- References -- Comparison of Transfer Learning Behaviour in Violence Detection with Different Public Datasets -- 1

Introduction -- 2 State of Art -- 2.1 RGB Based -- 3 Methodology
and Methods -- 3.1 Architecture Networks -- 3.2 Dataset -- 3.3
Training Settings -- 4 Results and Discussion -- 5 Conclusion
and Future Work -- References -- General AI.
Deep Neural Network Architectures for Speech Deception Detection: A
Brief Survey.
