

1. Record Nr.	UNISA996499858303316
Titolo	Computer science and education in computer science : 18th EAI international conference, CSECS 2022, on-site and virtual event, June 24-27, 2022, proceedings / / Tanya Zlateva, Rossitza Goleva (editors)
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2022] ©2022
ISBN	3-031-17292-2
Descrizione fisica	1 online resource (311 pages)
Collana	Lecture notes of the Institute for Computer Sciences, Social Informatics, and Telecommunications Engineering ; ; Volume 450
Disciplina	004
Soggetti	Computer science Computer science - Study and teaching
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- Computer Science Implementations -- A Clustering Approach to Analyzing NHL Goaltenders' Performance -- 1 Introduction -- 2 Data Analysis and Visualization -- 2.1 Data -- 2.2 Visualization and Statistics -- 3 k-Means Clustering of 5-Year SV% Trajectories -- 3.1 Cluster Trajectories -- 3.2 Cluster Signatures -- 4 Conclusion -- References -- Synopsis of Video Files Using Neural Networks: Component Analysis -- 1 Introduction -- 1.1 Current Challenges and Opportunities -- 1.2 Classification of Video Synopsis Methods -- 2 Video Synopsis Framework Overview -- 3 Analysis of the Background Extraction -- 3.1 Control Dataset -- 3.2 Results -- 4 Analysis of the Pedestrian Localization, Extraction, and Tracking Components -- 4.1 Control Dataset -- 4.2 Results for Pedestrian Localization with YOLOv3 -- 4.3 Results for Pedestrian Tracking with DeepSORT -- 4.4 Results for Pedestrian Re-identification with OSNet -- 5 Conclusions -- References -- Image Decluttering Techniques and Its Impact on YOLOv4 Performance -- 1 Introduction -- 2 Related Work -- 2.1 Image Augmentation -- 2.2 Test-Time Augmentation -- 2.3 Image Processing -- 3 Model Description -- 3.1 Dataset Description -- 3.2 Data Preprocessing -- 3.3 Data Augmentation -- 3.4 Image Processing

and Enhancement -- 3.5 Image Decluttering -- 4 Results -- 4.1 Training Using Different Dataset -- 4.2 Effect of Image Augmentation -- 4.3 Effect of Image Enhancement and Image Decluttering -- 5 Conclusion -- References -- Context-Switching Neural Node for Constrained-Space Hardware -- 1 Introduction -- 2 Architecture of the Artificial Neuron -- 2.1 Signed Multiplier -- 2.2 Code Converter -- 2.3 Adding Device -- 2.4 Activation Function -- 2.5 Synthesized Device -- 3 Context Switching Approach -- 4 Future Work -- 5 Conclusion -- References.

Region-Based Multiple Object Tracking with LSTM Supported Trajectories -- 1 Introduction -- 2 Related Work -- 3 Proposed Methodology -- 3.1 Proposed Method 1 -- 3.2 Proposed Method 2 -- 4 Evaluation and Dataset Used in Experiments -- 5 Experimental Results and Analysis -- 6 Conclusions and Future Directions -- References -- An Approach to Software Assets Reusing -- 1 Introduction -- 2 Review of Papers -- 3 Task and Research Questions -- 4 Proposed Approach -- 5 Model for Approximate Comparison of OCL Expressions -- 5.1 Graph Representation of OCL Expression -- 5.2 Model for Approximate Comparison of OCL Expressions -- 6 Evaluation of the Proposed Approach -- 7 Conclusion -- References -- Methodological Creation of HDRI from 360-Degree Camera - Case Study -- 1 360-Degree Cameras -- 2 Methodology -- 3 Stitching Issues -- 4 Parallax Errors -- 5 Results -- References -- Bioinformatics: Model Selection and Scientific Visualization -- 1 Introduction -- 2 Methods -- 2.1 Fitting Experimental Data -- 2.2 Model Selection Criteria -- 2.3 HP Protein Folding Model -- 3 Results and Discussion -- 3.1 HP Protein Folding Model -- 4 Conclusions -- References -- Estimating COVID Case Fatality Rate in Bulgaria for 2020-2021 -- 1 Introduction -- 1.1 The COVID-19 Global Pandemic -- 1.2 The COVID-19 Pandemic in Bulgaria -- 2 Methods -- 3 Results and Discussion -- 4 Conclusion -- References -- Pregnancy Outcomes in Women with Pregestational Diabetes -- 1 Introduction -- 2 Material and Methods -- 3 Results -- 4 Conclusion -- References -- Real-Time and Near-Real-Time Services in Distributed Environment for IoT - Edge - Cloud Computing Implementation in Agriculture and Well-Being -- 1 Introduction -- 2 State of the Art -- 3 Users' Requirements -- 4 Primary, Secondary, and Tertiary Users -- 5 Scenarios Implemented at IoT Level.

5.1 House Automation Management, Office/ Factory Building Automation Management, Crops Management in the House, in the Greenhouse -- 5.2 Crops Management in the Yard, in the Park, in the Fields -- 5.3 Healthcare Scenarios -- 6 Functional and Nonfunctional Requirements of the Personal Enhanced Living Environment 4.0 -- 7 Services for Primary, Secondary, and Tertiary Users -- 8 Network Architecture -- 9 Conclusions and Future Work Plans -- References -- On a Class of Minihypers in the Geometries PG (r,q) -- 1 Introduction -- 2 Preliminaries -- 3 The Characterization of (v_3+2v_2, v_2+2v_1) -minihypers in PG (r,q) , $q \geq 5$ -- 4 $(21,6)$ -minihypers in PG $(3,3)$ -- 5 $(31,7)$ -minihypers in PG $(3,4)$ -- 6 $(22,6)$ -minihypers in PG $(3,3)$ -- References -- Integer Sequences in the HP Model of Dill -- 1 Introduction -- 2 Deriving the Sequence -- 3 Definitions and Lemmas -- 4 Some Other Related Sequences -- 5 Some Explicit Formulas for the Presented Sequences -- 6 Application -- 7 Summary -- References -- Challenges and Opportunities in ESG Investments -- 1 Introduction -- 2 Responsible Investment -- 3 Technology-Based Solutions for ESG Investment Outcomes -- 4 Future Opportunities -- 5 Case Study: ExxonMobil -- 6 Discussion and Conclusion -- References -- Education in Computer Science -- A Visual Tool to Study Sorting Algorithms and Their Complexity -- 1 Introduction -- 2 Some

Frequently Taught Sorting Algorithms -- 2.1 Average-Case Square Complexity Algorithms -- 2.2 Average-Case $n \log n$ Complexity Algorithms -- 3 Visual Application Implementation -- 4 Conclusion -- References -- Database Schemas Used in SQL University Courses - State of the Art -- 1 Introduction -- 2 Methodology Used -- 2.1 Collecting Data and Study Points -- 2.2 Textual Representation of Relational Schemas -- 3 Database Schemas and States Included in the Research -- 3.1 Supplier Database [2].

3.2 Company Database [3] -- 3.3 SaleCo Database [4] -- 3.4 University Database [5] -- 3.5 Movies DB [6] -- 3.6 SCO Database [8] -- 4 Discussion -- 5 Conclusions -- References -- Are Research Universities Meeting the Educational Challenge of the New Economy? -- 1 Introduction -- 2 The Gap Between Educational Need and Availability -- 3 Higher Education Response to the Challenge -- 4 Organizational Hurdles -- 5 A Look to the Future -- References -- A Collaborative Learning Environment Using Blogs in a Learning Management System -- 1 Introduction -- 2 Literature Research -- 3 Background -- 3.1 The Learning Management System -- 3.2 The Notion of Blogs -- 3.3 The Notion of Collaborative Learning -- 3.4 The SQLValidator -- 4 Blog Implementation -- 5 Evaluation -- 5.1 Evaluation Results -- 6 Conclusion -- References -- Integrating Agile Development Approaches and Business Analysis Foundational Knowledge into a Project Management Course -- 1 Introduction -- 1.1 Project Management -- 1.2 Agile Project Management -- 2 A Foundational University Course in Project Management -- 2.1 Alignment with New Standard -- 2.2 Project Assignment -- 2.3 Key Milestones -- 3 Methods -- 3.1 GreenDoor App -- 3.2 Development Approach -- 4 Findings -- 4.1 Business Analysis -- 4.2 Adaptive Frameworks/Methodologies Agile Development -- 5 Conclusion -- References -- ABA@BU Program Competitiveness and ABA Graduates Employability Support -- 1 Introduction -- 1.1 ABA@BU Program Competitiveness -- 1.2 ABA Graduates Employability Support -- 2 The ABA@BU Graduates Employability Service Model -- 2.1 ABA@BU Employability Service Model -- 2.2 Service 1: Strategies for Job Search and Individual ePortfolio Creation -- 2.3 Service 2: Matching Skills with Job Offerings Updated by Burning Glass Labor Insight -- 2.4 Service 3: Technical Interview Simulation.

3 Increasing ABA Visibility: ABA@BU Community Digitization Portal -- 4 Conclusion, Summary Statistics, and What Next -- References -- Plagiarism Abatement with Assignment Templates -- Abstract -- 1 The Problem -- 2 Approach -- 3 Example Template -- 4 Example Instance of the Template -- 5 Instance History -- 6 Assessment -- 7 Conclusions -- References -- Reflections on the Applied Business Analytics Student Writing Project -- 1 Introduction -- 2 The Operational Concept, from Brainstorming to Publishing -- 3 Establishing a Regular, Predictable Rhythm - with "All Volunteers, No Hostages" -- 4 Student Success Vignettes -- 5 Limiting the Scope -- 6 Challenges and Frustrations -- 7 Publicizing the Work -- 8 Conclusions -- References -- Digital Learning Technologies - Supporting Innovation and Scalability -- 1 Superior Learning Environment and Scalable Support -- 2 Innovation Platform -- 3 Course-Centric Integration -- 4 Managing Student Progress -- 5 Scalability of Support -- 6 Future Work -- References -- Improving Student Employability with Python and SQL -- Abstract -- 1 Introduction to Course AD599 -- 1.1 Introduction to Boston University MS-ABA Program -- 1.2 Introduction to AD599 Introduction to Python and SQL for Business Analytics -- 2 Course Content Upgrade and Development -- 2.1 The First Version of the Course Content Upgrade in November 2021 and Preparation for Online

and On-Campus Teaching of AD599 Spring 2022 -- 2.2 The Second Version of the Course Content Upgrade in April 2022 and Preparation for Online and On-Campus Teaching of AD599 Summer 2022 -- 3 Course Content Execution -- 3.1 Interactive Teaching Approach -- 3.2 Teamwork Spirit Building -- 3.3 Standard Operating Procedure of Data Analytics -- 3.4 Retrospective Analytics -- 4 Extra Curricula Activities for Improving Student Employability -- 4.1 Employability Consultation Service.

4.2 Personal Consultation Sessions for Students.
