

1. Record Nr.	UNISA996546834303316
Autore	Gerber AURONA
Titolo	South African Institute of Computer Scientists and Information Technologists [[electronic resource]] : 44th Annual Conference, SAICSIT 2023, Pretoria, South Africa, July 17–19, 2023, Revised Selected Papers // edited by AURONA GERBER, MARIJKE COETZEE
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2023
ISBN	3-031-39652-9
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (298 pages)
Collana	Communications in Computer and Information Science, , 1865-0937 ; ; 1878
Altri autori (Persone)	CoetzeeMARIJKE
Disciplina	005.3
Soggetti	Application software Computer systems Computers, Special purpose Database management Computer and Information Systems Applications Computer System Implementation Special Purpose and Application-Based Systems Database Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- SAICSIT 2023 Organisation -- Contents -- Computer Science Track -- Matching Production and Test Files: A Comparison of Filename and Statement-Based Approaches -- 1 Introduction -- 2 Background -- 2.1 Related Work -- 2.2 Problem Statement -- 3 Matching Files via Filenames -- 4 Matching Files via Assertions -- 4.1 Distinguishing Between Tests and Production Files -- 4.2 Block 2: Extract Assert Statements -- 4.3 Block 3: Split Fluent Assertion Methods in Assert Statements -- 4.4 Block 4: Identify Directly-Tested Arguments -- 4.5 Block 5: Locate Directly and Indirectly Tested Objects -- 4.6 Block 6: Extract Production Classes from Declaration Statements -- 5 Performance Metrics: Precision, Recall and F1-Score -- 6 Bootstrap Confidence Intervals -- 7 Results and Discussion -- 7.1 Threats to Validity -- 8 Conclusion -- References --

Focused Crawling for Automated IsiXhosa Corpus Building -- 1
Introduction -- 2 Related Works -- 3 Methodology -- 3.1 Design of
Crawler -- 4 Analysis -- 4.1 Basic Statistics and Validation -- 4.2
Statistical Distributions of the Corpus -- 5 Discussion -- 5.1 Effects of
Agglutination -- 5.2 Effect of Seed URLs on Final Crawl -- 6
Conclusions and Future Work -- References -- Zero-Day Threats
Detection for Critical Infrastructures -- 1 Introduction -- 2 Related
Works -- 3 Experimental Datasets -- 4 Machine Learning Background
-- 4.1 Tree-Based Ensemble Classifiers -- 4.2 Naive Bayes -- 4.3
Support Vector Machine -- 5 The Proposed Fuzzy-Based Framework --
6 Results -- 6.1 Binary Classification Results -- 6.2 Multi-class
Classification Results -- 6.3 Zero-Day Attack Prediction -- 7
Conclusion -- References -- A Verification Tool for Real-Time Task
Schedulability Analysis -- 1 Introduction -- 2 Related Work -- 3
Technical Details -- 4 Features of the Tool -- 5 Performance Evaluation
-- 6 Conclusions.
References -- Parsing Semi-structured Languages: A Crochet Pattern to
Diagram Translation -- 1 Introduction -- 2 Related Work -- 2.1
Translating Semi-structured Natural Language -- 2.2 Crochet Pattern
Parsing -- 3 Analysis of Crochet Patterns -- 4 Implementation -- 4.1
Crogram -- 4.2 Semi-structured Natural Language to Formal Language
-- 4.3 Formal Language to Diagram -- 5 Results -- 5.1 Semi-
structured Natural Language to Crogram -- 5.2 Crogram to Diagram --
6 Conclusion and Future Work -- References -- Information Systems
Track -- A Review of Knowledge Sharing Challenges within E-
government Projects: A Perspective of the Ipe Knowledge Sharing Model
-- 1 Introduction -- 2 The Ipe 2003 Knowledge Sharing Model -- 3
Study Approach -- 3.1 Searching for Literature -- 3.2 Selecting Articles
for the Review -- 3.3 Analysing and Interpreting the Literature -- 3.4
Writing up the Results -- 4 Discussion and Analysis -- 4.1 Motivation
to Share Knowledge on E-government Projects -- 4.2 The Nature
of Knowledge Shared on E-government Projects -- 4.3 Opportunities
for Sharing Knowledge on E-government Projects -- 4.4 The Influence
of Work Environment Culture on Knowledge Sharing Practices within E-
government Projects -- 4.5 Implications of Poor Knowledge Sharing
within E-Government Projects -- 5 Conclusion -- References --
Synthesis of a Governance Framework for Blockchain Technology:
A Meta-synthesis -- 1 Introduction -- 2 Blockchain Foundation -- 2.1
Blockchain Made Simple -- 3 Blockchain Technology in Organisations
-- 3.1 Problem Statement -- 4 Purpose for the Study -- 4.1 Blockchain
Governance Problem Statement -- 4.2 Research Purpose and Objective
-- 5 Research Methodology -- 5.1 Research Philosophy -- 5.2
Methodology -- 5.3 Meta-synthesis -- 5.4 Description of Sample -- 6
Results and Discussion -- 6.1 Governance Definition -- 6.2 Governance
Challenges.
6.3 In OSS Governance -- 7 Blockchain Governance -- 8 Conceptual
Framework for Blockchain Governance -- 8.1 The Blockchain
Governance Framework: Conceptual Framework -- 8.2 Theoretical
Framework -- 9 Conclusion -- 9.1 Limitation -- 9.2 Future Research --
References -- Factors Influencing the Use of Parental Control Software
(PCS) Used by Parents in South Africa -- 1 Introduction -- 2 Literature
Review -- 2.1 Children's Access to Online Content and the Use of PCS
-- 3 Theoretical Framework -- 4 Research Design -- 4.1 Data
Collection and Analysis -- 4.2 Ethical Considerations -- 4.3 Study
Limitations -- 5 Findings and Discussions -- 5.1 Threat Appraisal --
5.2 Ownership Appraisal -- 5.3 Coping Appraisal -- 6 Conclusion
and Future Studies -- References -- Towards a Taxonomy
of Technological Innovations in Higher Education -- 1 Introduction -- 2

Background -- 2.1 Theory of Disruptive Innovation -- 2.2 Technology in Higher Education Functions -- 2.3 Taxonomy Development -- 3 Research Method -- 4 Results -- 5 Proposed Taxonomy -- 6 Conclusion -- References -- A Conceptual Model of Agility in Information Systems -- 1 Introduction -- 2 Agility and Its Requirement in Information Systems -- 2.1 Agility in Organizations -- 2.2 The Requirement for Agility in Information Systems -- 3 Method: A Systematic Literature Review of Agility in Information Systems -- 4 Data Theming, Coding and Analysis -- 5 Synthesis of Findings -- 5.1 Dynamic Capabilities Associated with Agility in Information Systems -- 5.2 Features Associated with Agility in Information Systems -- 5.3 Sociotechnical Contexts Associated with Agility in Information Systems -- 5.4 A Conceptual Model of Agility in Information Systems -- 6 Conclusion -- References -- A Framework for Information Security Risk Management from an Interoperability Perspective -- 1 Introduction. 2 Interoperability Frameworks Review -- 2.1 ATHENA -- 2.2 ECOLEAD -- 2.3 The Interoperability Framework -- 3 Information Security Frameworks -- 4 Novel Framework -- 5 Illustrative Example -- 6 Conclusion -- References -- Virtuality's Influence on Performing Information Systems Development -- 1 Introduction -- 2 Conceptual Background -- 3 Research Methodology -- 4 Findings -- 4.1 Leading -- 4.2 Communicating -- 4.3 Collaborating -- 4.4 Trusting -- 4.5 Knowing -- 4.6 Dealing with Challenges -- 4.7 Developing with Agility -- 4.8 Assessing Achievements -- 4.9 Enacting Virtuality -- 5 Discussion -- 6 Conclusion -- References -- Factors Affecting Code Security in South African Organization -- 1 Introduction -- 2 Literature Review -- 3 Methodology -- 4 Findings and Discussion -- 4.1 The Reliance on IT Infrastructure Affects How IT Practitioners Perceive Code Security -- 4.2 Minimal Adoption of Security Tools Obstructs the Pursuit for Code Security -- 4.3 IT Practitioners' Expertise and Experience with Security Facilitates the Development of Security Code -- 4.4 Overworked Security Personnel Affect Code Security -- 4.5 Organization Support for Cybersecurity Specific Training Facilitate Code Security -- 4.6 Collaboration of IT Practitioners Enables the Development of Secure Code -- 5 Conclusion -- References -- Drained and Depleted: The Erosion of Personal and Professional Boundaries of Post-Covid IS Academics -- 1 Introduction -- 2 Theoretical Approach -- 3 Literature Review -- 3.1 Digital Technology -- 3.2 Work-Life Balance -- 3.3 Work-Life Conflict -- 3.4 Work from Home -- 3.5 Mobile Technology and Work-Life Balance Impacts -- 3.6 Negative Technological Impacts -- 3.7 Positive Technological Impacts -- 4 Methodology -- 5 Findings -- 5.1 Theme 1: Work-Life Balance -- 5.2 Theme 2: Work Intensification -- 5.3 Theme 3: Nature of Discipline. 5.4 Theme 4: Flexibility -- 5.5 Theme 5: Mobile Technology Use -- 6 Discussion and Conclusion -- References -- Exploring the Suitability of the TOE Framework and DOI Theory Towards Understanding AI Adoption as Part of Sociotechnical Systems -- 1 Introduction -- 2 Research Paradigm -- 3 Sociotechnical Systems -- 4 TOE Framework -- 5 DOI Theory -- 6 A Lens for Enabling AI Adoption -- 7 Conclusion -- References -- Key Principles of Ethics in Technology: An Organizational Technology Ethics Checklist -- 1 Introduction -- 2 Background -- 2.1 Digital Transformation -- 2.2 Ethics in Technology -- 2.3 Relationship Framework for Information Ethics -- 3 Methodology -- 4 Data Analysis and Findings -- 5 Categorization of Concepts to Information Ethics Relationship Framework and Derivation of Key Principles -- 6 Conclusion -- References -- ChatGPT in Scholarly Discourse: Sentiments and an Inflection Point -- 1 Introduction -- 2 Research

Methodology -- 3 Results and Discussion -- 3.1 Main Information -- 3.2 Top 10 Country Specific Production -- 3.3 Top 10 Cited Articles -- 3.4 Top 10 Journals -- 3.5 Most Frequent Words -- 3.6 Thematic Map -- 3.7 Discussion of Findings -- 4 Conclusions -- References -- The Impact of 4IR Mobile Technologies on Small Businesses in Urban Areas of Pretoria in South Africa -- 1 Introduction and Background -- 2 Literature Review -- 2.1 Fourth Industrial Revolution (4IR) -- 2.2 Small Business in South Africa -- 2.3 Improving Connectivity in Small Businesses Through 4IR Mobile Technology -- 2.4 Opportunities and Challenges of Mobile Technologies in Small Business -- 2.5 Social Media Platforms to Be Used by Small Businesses -- 2.6 Key 4IR Mobile Technologies Utilised in Small Businesses -- 2.7 The Impact of 4IR on Small Businesses -- 2.8 Digital Transformation and Small Businesses -- 3 Research Methodology -- 3.1 Research Method. 3.2 Data Collection and Sampling.

Sommario/riassunto

This book contains a selection of the best papers of the 44th Annual Conference, SAICSIT 2023, held in Pretoria, South Africa, in July 2023. The 18 papers presented in this volume were carefully reviewed and selected from 54 regular submissions. They address various aspects of the role of computer science in connectivity, information systems for connectivity, connecting society and emerging technologies for connectivity.
