18th International Conference on Web Information Systems and Technologies (WEBIST 2022)

Valletta, Malta
25 – 27 October 2022

Editors:
Stefan Decker
Francisco Domingez Mayo
Massimo Marchiori
Joaquim Filipe

ISBN: 978-1-7138-6397-7
CONTENTS

INVITED SPEAKERS

KEYNOTE SPEAKERS

Word Association Thematic Analysis: Insight Discovery from the Social Web
Mike Thelwall 5

Causal Inference: Why We Should Care
Wolfgang Nejdl 11

Knowledge-based Confidentiality-preserving Query Answering
Riccardo Rosati 13

Diving Deep into the Murky Web of Social Media
Diana Maynard 15

INTERNET TECHNOLOGY

FULL PAPERS

Classifying the Reliability of the Microservices Architecture
Adrian Ramsingh, Jeremy Singer and Phil Trinder 21

Few-shot Approach for Systematic Literature Review Classifications
Máis Kely de Melo, Allan Victor Almeida Faria, Li Weigang, Arthur Gomes Nery, Flávio Augusto R. de Oliveira, Ian Teixeira Barreiro and Victor Rafael Rezende Celestino 33

Agile in Higher Education: How Can Value-based Learning Be Implemented in Higher Education?
Eva-Maria Schön, Ilona Buchem and Stefano Sostak 45

Privacy Policy Beautifier: Bringing Privacy Policies Closer to Users
Michalis Kaili and Georgia M. Kapitsaki 54

Ulisses Telemaco Neto, Toacy Oliveira, Raquel Pillat, Paulo Alencar, Don Cowan and Glaucia Melo 64

Machine Learning and Raspberry PI Cluster for Training and Detecting Skin Cancer
Elias Rabelo Matos, Edward David Moreno and Kalil Araujo Bispo 75

Semi Real-time Data Cleaning of Spatially Correlated Data in Traffic Sensor Networks
Federica Rollo, Chiara Bachechi and Laura Po 83
SHORT PAPERS

Who Ate All Our Cookies? Investigating Publishers’ Challenges Caused by Changes in Third-party Cookie Tracking
Valerio Stallone, Aline Gägauf and Tania Kaya

Transfer, Measure and Extend Maintainability Metrics for Web Component based Applications to Achieve Higher Quality
Tobias Münch and Rainer Roosmann

Temporal Evolution of Topics on Twitter
Daniel Pereira, Wladmir Brandão and Mark Song

Evaluation of Project Work in Public Administrations in E-government and Digitization Projects in Germany
Hanna Looks, Anja Gebauer, Jörg Thomaschewski, María José Escalona and Eva-Maria Schön

Multi-label Emotion Classification using Machine Learning and Deep Learning Methods
Drashti Kher and Kalpdrum Passi


Adaptive and Collaborative Inference: Towards a No-compromise Framework for Distributed Intelligent Systems
Alireza Furutanpey and Schahram Dustdar

Interaction Lab: Web User Interaction Tracking and Analysis Tool
Daniel Fernández-Lanvin, Javier de Andrés, Martín González-Rodríguez and Pelayo García Torre

Towards a Pattern-based Approach for Transforming Legacy COBOL Applications Into RESTful Web Services
Christoph Gaudl and Philipp Brune

The Ginger: Another Spice to Hinder Attacks on Password Files
Francesco Buccafurri, Vincenzo De Angelis and Sara Lazzaro

A Distributed Registry of Multi-perspective Data Services in Cyber Physical Production Networks
Ada Bagozi, Devis Bianchini and Anisa Rula

A Data-Centric Anomaly-Based Detection System for Interactive Machine Learning Setups
Joseph Bugeja and Jan A. Persson

Using Feature Analysis to Guide Risk Calculations of Cyber Incidents
Benjamin Aziz and Alaa Mohassem
WEB INTELLIGENCE AND SEMANTIC WEB

FULL PAPERS

Using Transfer Learning To Classify Long Unstructured Texts with Small Amounts of Labeled Data
Carlos Alberto Alves Rocha, Marcos Vinicius Pinheiro Dib, Li Weigang, Andrea Ferreira Portela Nunes, Allan Victor Almeida Faria, Daniel Oliveira Cajueiro, Maísa Kely de Melo and Victor Rafael Rezende Celestino

Characterizing Open Government Data Available on the Web from the Quality Perspective: A Systematic Mapping Study
Rafael Chiaradia Almeida, Glauco de Figueiredo Carneiro and Edward David Moreno

Exploiting Linked Data-based Personalization Strategies for Recommender Systems
Gabriela Oliveira Mota Da Silva, Lara Sant’Anna do Nascimento and Frederico Araújo Durão

SHORT PAPERS

Term-based Website Evaluation Applying Word Vectors and Readability Measures
Kiyoshi Nagata

POSER: A Semantic Payload Lowering Service
Daniel Spieldenner

ELEVEN Data-Set: A Labeled Set of Descriptions of Goods Captured from Brazilian Electronic Invoices
Vinícius Di Oliveira, Li Weigang and Geraldo Pereira Rocha Filho

Factoid vs. Non-factoid Question Identification: An Ensemble Learning Approach
Alaa Mohasseb and Andreas Kanavos

Comparative Analysis of Recurrent Neural Network Architectures for Arabic Word Sense Disambiguation
Rakia Saidi, Fethi Jarray and Mohammed Alsuhaibani

A Simple Algorithm for Checking Pattern Query Containment under Shape Expression Schema
Haruna Fujimoto and Nobutaka Suzuki

Classification of the Top-cited Literature by Fusing Linguistic and Citation Information with the Transformer Model
Masanao Ochi, Masanori Shiro, Jun’ichiro Mori and Ichiro Sakata

Towards an Ontology-based Recommender System for Assessment in a Collaborative Elearning Environment
Asma Hadyaoui and Lilila Cheniti-Belcadhi

Towards Soft Web Intelligence by Collecting and Processing JSON Data Sets from Web Sources
Paolo Fosci and Giuseppe Psaila

Publish and Enrich Geospatial Data as Linked Open Data
Claire Ponciano, Markus Schaffert, Falk Würriehausen and Jean-Jacques Ponciano

An Artificial Intelligence Application for a Network of LPI-FMCW Mini-radar to Recognize Killer-drones
Alberto Lupidi, Alessandro Cantelli-Forti, Edmond Jajaga and Walter Matta

XIII
### FULL PAPERS

- **Cooking Reviews Segmentation and Classification based on Deep Learning and Named Entity Detection**  
  *Randa Benkhelifa and Nasria Bouhyaoui*  
  Pages 337

- **Unsupervised Aspect Term Extraction for Sentiment Analysis through Automatic Labeling**  
  *Danny Suarez Vargas, Lucas R. C. Pessatto and Viviane Pereira Moreira*  
  Pages 344

- **Do Top Higher Education Institutions’ Social Media Communication Differ Depending on Their Rank?**  
  *Alvaro Figueira and Lirielly Vitorugo Nascimento*  
  Pages 355

### SHORT PAPERS

- **A Skill Sharing Platform for Team Collaboration and Knowledge Exchange**  
  *Victor Obionwu, Andreas Nurnberger and Gunter Saake*  
  Pages 365

- **“eRReBIS” Business Intelligence based Intelligent Recommender System for e-Recruitment Process**  
  *Siwar Ayadi, Manel Bensassi and Henda Ben Ghezala*  
  Pages 373

### HCI IN MOBILE SYSTEMS AND WEB INTERFACES

### FULL PAPER

- **Identifying User Experience Aspects for Voice User Interfaces with Intensive Users**  
  *Kristina Kölln, Jana Deutschländer, Andreas M. Klein, Maria Rauschenberger and Dominique Winter*  
  Pages 385

### SHORT PAPERS

- **Impact of Usage Behaviour on the User Experience of Netflix, Microsoft Powerpoint, Bigbluebutton and Zoom**  
  *Jessica Kollmorgen, Martin Schrepp and Jörg Thomaschewski*  
  Pages 397

- **Study on VR Application Efficiency of Selected Android OS Mobile Devices**  
  *Przemyslaw Falkowski-Gilski and Karol Fidurski*  
  Pages 407

- **Incorporating the User Attention in User Interface Logs**  
  *A. Martínez-Rojas, A. Jiménez-Ramírez, J. G. Enríquez and D. Lizcano-Casas*  
  Pages 415

- **Data Visualization, Accessibility and Graphicacy: A Qualitative Study of Communicative Artifacts through SUS Questionnaire**  
  *Alessio Caccamo*  
  Pages 422

- **Space Geeks: A Proposed Serious Game to Teach Array Concept for Novice Programming Students**  
  *Abdelbaset Jamal Assaf, Mohammed Eshtay and Lana Issa*  
  Pages 431

- **An Interaction Effort Score for Web Pages**  
  *Juan Cruz Gardey, Julián Grigera, Andrés Rodríguez, Gustavo Rossi and Alejandra Garrido*  
  Pages 439

- **Cornucopia: Tool Support for Selecting Machine Learning Lifecycle Artifact Management Systems**  
  *Marius Schlegel and Kai-Uwe Sattler*  
  Pages 444
### SPECIAL SESSION ON QUALITY OF SERVICE AND QUALITY OF EXPERIENCE IN SYSTEMS AND SERVICES

#### FULL PAPERS

Performance Analysis of the OpenCL Environment on Mobile Platforms  
*Przemysław Falkowski-Gilski and Maciej Plewka*  
455

Quality of Cryptocurrency Mining on Previous Generation NVIDIA GTX GPUs  
*Jerzy Demkowicz, Maciej Rutkowski and Przemysław Falkowski-Gilski*  
466

Study on AR Application Efficiency of Selected iOS and Android OS Mobile Devices  
*Monika Zamłyńska, Adrian Lasota, Grzegorz Debita and Przemysław Falkowski-Gilski*  
475

The Concept of Application of the Wroclaw Taxonomy for QoS Assessment in Mobile Networks  
*Dariusz Zmysłowski and Jan M. Kelner*  
485

#### SHORT PAPER

Drive Test-based Correlation Assessment of QoS Parameters for Exemplary Measurements Scenario in Suburban Environment  
*Dariusz Zmysłowski and Jan M. Kelner*  
497

#### AUTHOR INDEX

505