

2022 IEEE Fifth International Conference on Artificial Intelligence and Knowledge Engineering (AIKE 2022)

**Laguna Hills, California, USA
19-21 September 2022**



**IEEE Catalog Number: CFP22P81-POD
ISBN: 979-8-3503-4687-9**

**Copyright © 2022 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP22P81-POD
ISBN (Print-On-Demand):	979-8-3503-4687-9
ISBN (Online):	978-1-6654-7120-6
ISSN:	2831-7211

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2022 IEEE Fifth International Conference on Artificial Intelligence and Knowledge Engineering (AIKE) **AIKE 2022**

Table of Contents

Message from the General Co-Chairs	viii
Message from the Program Chairs	x

Knowledge Graphs

SimE4KG: Distributed and Explainable Multi-Modal Semantic Similarity Estimation for Knowledge Graphs	1
<i>Carsten Felix Draschner (University of Bonn, Germany), Hajira Jabeen (Leibniz Institute for the Social Sciences, Germany), and Jens Lehmann (Amazon, Germany)</i>	
Interpretability of Knowledge Graph-Based Explainable Process Analysis	9
<i>Anne Füssel (Technische Universität Ilmenau, Germany) and Volker Nissen (Technische Universität Ilmenau, Germany)</i>	
Sustainability of Machine Learning-Based Android Malware Detection Using API Calls and Permissions	18
<i>Woosang Lee (Dankook University, Republic of Korea), Hojun Lee (Dankook University, Republic of Korea), Sangchul Han (Konkuk University, Republic of Korea), Youngsup Hwang (Sun Moon University, Republic of Korea), and Seong-je Cho (Dankook University, Republic of Korea)</i>	
An Approach for Recommending Relevant Articles in news Portal Based on Doc2Vec	26
<i>Bogdan Walek (University of Ostrava, Czech Republic) and Patrik Müller (University of Ostrava, Czech Republic)</i>	
Hybrid Knowledge Engineering to Build a Global Assassination Dataset	32
<i>Abigail Sticha (University of Notre Dame, USA), Steven Broussard (University of Notre Dame, USA), Ian Havenaar (University of Notre Dame, USA), Charles Vardeman (University of Notre Dame, USA), and Paul Brenner (University of Notre Dame, USA)</i>	
A Hybrid Video-to-Text Summarization Framework and Algorithm on Cascading Advanced Extractive- and Abstractive-Based Approaches for Supporting Viewers' Video Navigation and Understanding	36
<i>Aishwarya Ramakrishnan (Worcester Polytechnic Institute, USA) and Chun-Kit Ngan (Worcester Polytechnic Institute, USA)</i>	

Classification and Machine Learning

Exponential Moving Based Features for Acoustic Scene Classification	40
<i>Mustafa Sert (Baskent University, Turkey)</i>	
Cheat Detection Through Temporal Inference of Constrained Orders for Subsequences	45
<i>Jon Rogers (University of Alabama in Huntsville, USA), Ramazan Aygun (Kennesaw State University, USA), and Letha Eitzkorn (University of Alabama in Huntsville, USA)</i>	
Ethical and Sustainability Considerations for Knowledge Graph Based Machine Learning	53
<i>Carsten Felix Draschner (University of Bonn, Germany), Hajira Jabeen (Leibniz Institute for the Social Sciences, Germany), and Jens Lehmann (AMazon, Germany)</i>	
The Effects of Model Capacity in Modelling Variability Between Training and Testing Environments for Automatic Speech Recognition	61
<i>Anwar Tantawy (Institut national de la recherche scientifique (INRS), Canada) and Douglas O'Shaughnessy (Institut national de la recherche scientifique (INRS), Canada)</i>	
OCI Runtime Comparison and Analysis Study	65
<i>Sunghwan Jeon (Dankook University, Korea), Yunmook Nah (Dankook University, USA), Haejin Chung (Duksung Woman's University, Korea), and Simon Shim (San Jose State University, Korea)</i>	

Machine Learning and Recommender Systems

Detecting Pneumonia Based On Chest X-Ray Images Using Reinforcement Learning	67
<i>Rafa A. Alenezi (North Dakota State University, USA) and Simone A. Ludwig (North Dakota State University, USA)</i>	
Few-Shot Text Classification with Saliency-Equivalent Concatenation	74
<i>Ying-Jia Lin (National Cheng Kung Univiserty, Taiwan), Yu-Fang Chang (National Cheng Kung Univiserty, Taiwan), Hung-Yu Kao (National Cheng Kung Univiserty, Taiwan), Hsin-Yang Wang (SoftBank Corp., Japan), and Mu Liu (SoftBank Corp., Japan)</i>	
A Sentiment Analysis Based Stock Recommendation System	82
<i>Jayanth Rao (Arizona State University, USA), Venkat Ramaraju (Arizona State University, USA), James Smith (Arizona State University, USA), and Ajay Bansal (Arizona State University, USA)</i>	
Development of a Variety of Fast Machine Learning Model for ECG-Based Arrhythmia Classifier	90
<i>Gengjia Zhang (Chosun University, Korea), Siho Shin (Chosun University, Korea), Jaehyo Jung (Chosun University, Korea), Meina Li (Jilin University, China), and Youn Tae Kim (Chosun University, Korea)</i>	
Machine Learning Algorithm for Non-Invasive Blood Pressure Estimation Using PPG Signals	94
<i>Gengjia Zhang (Chosun University, Korea), Siho Shin (Chosun University, Korea), Jaehyo Jung (Chosun University, Korea), Meina Li (Jilin University, China), and Youn Tae Kim (Chosun University, Korea)</i>	

Knowledge Engineering

Knowledge Graphs for Automated Driving	98
<i>Lavdim Halilaj (Corporate Research, Robert Bosch GmbH, Germany), Juergen Luetttin (Corporate Research, Robert Bosch GmbH, Germany), Cory Henson (Research and Technology Center, Robert Bosch LLC, USA), and Sebastian Monka (Corporate Research, Robert Bosch GmbH, Germany)</i>	
RECLAIM: Reverse Engineering Classification Metrics	106
<i>Flavio Giobergia (Politecnico di Torino, Italy) and Elena Baralis (Politecnico di Torino, Italy)</i>	
Multi-Robot Directed Coverage Path Planning in Row-Based Environments	114
<i>Tingjun Lei (Mississippi State University, USA), Pradeep Chintam (Mississippi State University, USA), Chaomin Luo (Mississippi State University, USA), and Shahram Rahimi (Mississippi State University, USA)</i>	
Clustering Algorithms Analysis Based on Arcade Game Player Behavior	122
<i>Daniel Shamsudin (Multimedia University, Malaysia), Meng Chew Leow (Multimedia University, Malaysia), and Lee Yeng Ong (Multimedia University, Malaysia)</i>	
Assessing Feature Selection Techniques for Machine Learning Models Using Cardiac Dataset	126
<i>Shital Patil (Veermata Jijabai Technological Institute, India) and Surendra Bhosale (Veermata Jijabai Technological Institute, India)</i>	
Enhancing Sustainability in Machine Learning based Android Malware Detection Using API Calls	131
<i>Hojun Lee (Dankook University, Republic of Korea), Seong-je Cho (Dankook University, Republic of Korea), Hyoil Han (Illinois State University, USA), Woosang Cho (Dankook University, Republic of Korea), and Kyoungwon Suh (Illinois State University, USA)</i>	
Author Index	135