AIRE 2022: 9th International Workshop on Artificial Intelligence and Requirements Engineering

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Abstract—RE researchers have employed AI techniques to tackle different notions of requirements quality, have applied the techniques to different case studies and domains, and have used different metrics to assess the performance of their techniques. Given the pervasiveness of AI-based systems in our daily life, recent years have also seen an increasing need for RE techniques to support sound and structured development of AI system, with particular interest in explainability of system behaviour. The primary purpose of the AIRE workshop is to explore synergies between AI and RE in order to identify complex RE problems that could benefit from the application of AI techniques and the other way round, thus addressing RE for AI challenges. The edition of the workshop in 2022 received 6 submissions, which were independently reviewed by at least three program committee members. In the end, 5 papers were accepted. All the conflicts of interest were treated seriously and independently. The workshop takes place virtually on August 16, 2022. We hope that you enjoy the AIRE'22 workshop and its proceedings. We consider that in the days when AI is gaining prominence in our daily lives, the RE community cannot neglect the benefit that AI techniques can deliver to the practice of requirements engineering. The workshop will feature also two keynotes, from Fabiano Dalpiaz, from the University of Utrecht, the Netherlands, on *Requirements Conversations: A New Frontier in AI-for-RE*, and from Jennifer Horkoff, on *Requirements Engineering for Machine Learning: Non-functional Requirements as Core Functions*. We look forward to seeing you all at this workshop and the future editions. We are very grateful to the Program Committee members and authors of the submissions for their hard work and dedication in putting together this program. We would like to thank you all for your participation in AIRE'22.

I. ACCEPTED PAPERS

1) *Can Requirements Engineering Support Explainable Artificial Intelligence? Towards a User-Centric Approach for Explainability Requirements*, by Umm E Habiba, Justus Bogner and Stefan Wagner
2) *Classification of Issue Discussions in Open Source Projects*, by Şevval Mehder and Fatma Başak Aydemir
3) *AI Ethics Impact Assessment based on requirement engineering*, by Izumi Nitta, Kyoko Ohashi, Satoko Shiga and Sachiko Onodera
4) *How do Engineers Collaborate in Requirements Engineering for Machine Learning? A Systematic Review and Example Cases*, by Zhongyi Pei, Lin Liu, Chen Wang and Jianmin Wang
5) *Domain Model Extraction from User-authored Scenarios and Word Embeddings*, by Yuchen Shen and Travis Breaux

II. PROGRAM COMMITTEE

- Sallam Abualhaija, University of Luxembourg, Grand Duchy of Luxembourg
- Raian Ali, Hamad bin Khalifa University, Qatar
- Chetan Arora, Deakin University, Australia
- Fatma Başak Aydemir, Boğaziçi University, Turkey
- Daniel Berry, University of Waterloo, Canada
- Markus Borg, RISE SICS AB, Sweden
- Fabiano Dalpiaz, Utrecht University, The Netherlands
- Neil A. Ernst, University of Victoria, Canada
- Henning Femmer, Qualicen GmbH, Germany
- Davide Fucci, University of Hamburg, Germany
- Vincenzo Gervasi, University of Pisa, Italy
- Smita Ghaisas, TCS Research, Tata Consultancy Services
- Jin Guo, McGill University, Canada
- Emitza Guzman, University of Zurich, Switzerland
- Jennifer Horkoff, Chalmers University of Technology, Sweden
- Frank Houdek, Daimler AG, Germany
- Oliver Karras, TIB Leibniz Information Centre, Germany
- Tong Li, Beijing University of Technology, China
- Soo Ling Lim, University College London,
- Silverio Martínez-Fernández, Barcelona Tech, Spain
- Mona Rahimi, Northern Illinois University, USA
- Michael Unterkalmsteiner, Blekinge Institute of Technology, Sweden
- Andreas Vogelsang, TU Berlin, Germany
- Liping Zhao, The University of Manchester, UK

III. PROCEEDINGS

Workshop proceedings will be published in the IEEE Digital Library, the standard option offered to RE workshops.

IV. WORKSHOP HISTORY

This is the ninth edition of this workshop. The first edition, AIRE-2014, attracted 17 submissions and around 24 attendees. The second edition, AIRE-2015, received 6 submissions and around 15 attendees. The third edition, AIRE-2016, attracted 15 submissions and around 25 attendees. The fourth edition, AIRE-2017, attracted 7 submissions and around 29 attendees. The fifth edition, AIRE-2018, attracted 15 submissions and around 30 attendees. The sixth edition, AIRE-2019, attracted 9 submissions and at least 25 attendees. The seventh edition, AIRE-2020 (online edition), attracted 17 submissions and we got between 18-35 attendees during the sessions. The eight edition, AIRE-2021 (online) attracted 18 submissions, with 12 presentations, and at least 25 attendees.

V. ORGANIZERS' BIOS

Alessio Ferrari
is Research Scientist at Consiglio Nazionale delle Ricerche—Istituto di Scienza e Tecnologie dell'Informazione "A. Faedo" (CNR-ISTI), Italy. He received a PhD in computer engineering from the University of Florence in 2011. His research focuses on natural language processing (NLP) applied to requirements engineering, and on empirical studies on

requirements elicitation interviews. He is co-author of more than 60 publications in international conferences and journals, including IEEE RE, REFSQ, REJ, EMSE and IEEE Software. He has been part of the RE PC and ICSE PC, local organisation co-chair of REFSQ'20, and will be PC co-chair of REFSQ'22. He is one of the creators and co-organisers of the NLP4RE workshop, co-located with REFSQ'18-'22, and co-organiser of AIRE'20.

Hans-Martin Heyn

is a postdoc researcher at the Division of Interaction Design and Software Engineering (IDSE), Department of Computer Science and Engineering, Chalmers University of Technology and the University of Gothenburg. He received a PhD in Marine Technology from the Norwegian University of Science Technology (NTNU) in Trondheim. His work concentrates on developing architectures for distributed systems, and requirement engineering methods for (distributed) systems with machine learning components. His research interests include functional safety, especially for systems using machine learning, Bayesian methods, fault diagnosis, and decision theory.

Mehrdad Sabetzadeh

is an Associate Professor at the School of Electrical Engineering and Computer Science of the University of Ottawa. Sabetzadeh received his Ph.D. in Computer Science from the University of Toronto. His main research interests are in software engineering with an emphasis on AI-enabled requirements engineering, model-based development, and regulatory compliance. Sabetzadeh is passionate about fostering stronger ties between academia and industry; in the past decade, he has conducted most of his research in close collaboration with industry partners. His experience spans several sectors, including government, finance, legal services, telecommunications, maritime, energy, aerospace, railways, and automotive. Sabetzadeh has co-authored more than 70 scientific papers and secured more than $6M of research funding as lead investigator. He regularly serves on the organizing / program committees of several international conferences such as RE, ICSE, ESEC/FSE, and MODELS.

The organizers are assisted by a steering committee that ensures the continuity of the workshop over the years. The steering committee consists of the five people who co-organized the workshop in previous editions:

- Nelly Bencomo (Aston U, UK)
- Rachel Harrison (Oxford Brookes U, UK)
- Andreas Vogelsang (TU Berlin, Germany)
- Eduard Groen (Fraunhofer IESE, Germany)
- Pradeep Murukannaiah (TU Delft, Netherlands)

VI. WEBSITE AND TWITTER

Our website is available at https://aire-ws.github.io/aire22/index.html, and our Twitter handler is AIRE_WS.

VII. CONTACT INFORMATION

The primary contact person for the workshop is: Alessio Ferrari (alessio.ferrari@isti.cnr.it).