Rui Zhao

Email: rui.zhao@ed.ac.uk

Education

Ph.D (undertaking) in Informatics
AIAI, School of Informatics, University of Edinburgh

2018 – present

Formally modelling data-governance rules to support automated compliance check in decentralized MIMO contexts
Supervisor: Prof. Malcolm Atkinson, Dr. Petros Papapanagiotou and Dr. Jacques Fleuriot

MSc in Computer Science
University of Edinburgh

2016 – 2017

Making dispel4py dynamic – scaling up dispel4py workflow deployment on-demand and updating workflow structures on-demand
Supervisor: Prof. Malcolm Atkinson

B.E. in Software Engineering
Northwest A&F University

2012 – 2016

Design and implementation of a 3-d dynamic solar systems viewing system – a distributed exploration system

Research Focus and Interest

My research incorporates formal modelling, situation calculus, provenance, ontologies, etc. It aims to provide a better solution to address real-life needs of handling multi-staged cross-institution decentralized data processing and encoding data-use rules containing obligations. The outcome is the Dr.Aid framework, including a novel language designed for rule-modelling for DAGs.

I am keen on doing further research in extending language semantics, optimisation through logical properties, extending triggers through temporal logic, etc. Working in related topics would also be highly interested to me.

Publication

R. Zhao, M. Atkinson, P. Papapanagiotou, F. Magnoni, and J. Fleuriot, 'Dr.Aid: supporting data-governance rule compliance for decentralized collaboration in an automated way', accepted by *2021 24th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, Oct. 2021.

R. Zhao and M. Atkinson, 'Towards a Computer-Interpretable Actionable Formal Model to Encode Data Governance Rules', in *Proceedings of 2019 15th International Conference on eScience (eScience), BC2DC*, Sep. 2019, pp. 594–603, doi: 10.1109/eScience.2019.00082.

Other

R. Zhao, 'An Automated Framework for Supporting Data-Governance Rule Compliance in Decentralized MIMO Contexts', accepted by *Doctoral Consortium, 2021 30th International Joint Conference on Artificial Intelligence (IJCAI)*, Aug. 2021.

R. Zhao, M. Atkinson, P. Papapanagiotou, J. Fleuriot, and C. Pagé, 'Computer-supported ethical rules for collaboratively sharing data', in *Ethics in Design, 23rd ACM Conference on CSCW*, Oct. 2020.

Academical Activity

Research Assistant
School of Informatics, University of Edinburgh

03/2020 - 09/2020

Designing and Developing Dare Knowledge Base (DKB) for the DARE Project

Teaching Assistant
School of Informatics, University of Edinburgh

09/2018 - present

Tutor and Demonstrator for various courses, e.g. MLP, ANLP, INF1-OP, IPPO, etc

Credit

Associate Fellowship of *Higher Education Academy* (AFHEA)

01/2021

Other Presence

Seminar at *AIAI, School of Informatics, University of Edinburgh* 05/2021
  02/2020

Poster at *DemoFest 2019* in *Edinburgh* 11/2019
  DemoFest 2018   Edinburgh 11/2018

Poster at *SICSA PhD Conference 2019* in *Stirling* 06/2019
  SICSA PhD Conference 2018   Aberdeen 06/2018

Other Activity

PhD Student Representative of *AIAI* 09/2019 - present
School of Informatics, University of Edinburgh

Author of *Easer* 12/2017 - present
  Easer is an open-source event-driven Android automation app, alternative to Tasker

Class Representative 09/2016 - 08/2017
School of Informatics, University of Edinburgh
  Class Rep for same-cohort (2016) MSc students across School of Informatics

Student Assistant 05/2015 - 05/2016
Network & Education Technology Centre, Northwest A&F University

Leader of *Linux User Group* 05/2014 - 03/2016
Northwest A&F University