Shuai Wang

Computer Scientist

shuai.wang@vu.nl

shuai.ai

github.com/shuaiwangvu

www.linkedin.com/in/shuai-ai/

Education

06/2017 - 05/2022

Ph.D. Artificial Intelligence

Vrije Universiteit Amsterdam (VU)

Linked Data ▪ Knowledge Graph ▪ Refinement ▪ Algorithm Development.

09/2015 - 08/2017

MSc Logic (computation track)

University of Amsterdam (UvA)

Knowledge Representation ▪ Information Theory ▪ Dynamic Epistemic Logic ▪ Machine Learning.

08/2012 - 07/2014

BSc Artificial Intelligence (first class ≈ cum laude)

University of Manchester

Machine Learning ▪ Verified Development ▪ Natural Language Processing ▪ Algorithms.

Biography

I work as a scientific engineer focusing on semantic web, linked open data, knowledge graphs, and Artificial Intelligence. I am familiar with logic-based inference, automated reasoning, linked data analysis and refinement, etc. My most recent work concerns improving data management in social sciences and humanities communities. Most recently, our project received the OSCA award.

Work experience

Scientific Engineer (2022 - present)
Data Steward (2023 - present)

Dept. CS, Vrije Universiteit Amsterdam

Vrije Universiteit Amsterdam, the Netherlands.

Since June 2022, I work as a research engineer at the User-Centric Data Science group. I work with Dr. Angelica Maineri, Prof. Jacco van Oseenbruggen and Dr. Ronald Siebes in the project "Building a FAIR Expertise Hub for the social sciences". I work closely with social scientists in the Netherlands. I also serve as the department data steward.

PhD student & teaching assistant
2017 - 2022

Vrije Universiteit Amsterdam; funded by NWO

Vrije Universiteit Amsterdam, the Netherlands.

I performed some comprehensive analysis of very large integrated knowledge graphs; developed hybrid refinement algorithms at web scale. I have published papers at top A.I. conference venues such as ESWC. I have also been a teaching assistant for Deep Learning, Intelligent Systems, and A.I. in Health, etc.

Research internship (4 months)
Summer 2016 LAAS-CNRS, the Aerospace Valley, Toulouse, France.

CNRS: the French National Research Council

This research internship was in a humanoid robotics group where I studied path planning for multiple robots to escape from a crashed airplane in simulation. The result was presented as a demo in the BNAIC conference.

Research internship (6 months)
Spring-Summer 2015 French National Institute for Research in Computer Science and Automation (INRIA Paris-Rcquencourt), Paris, France.

INRIA ≈ the French equivalent of CWI

I modified the kernel of a higher-order logic theorem prover, with which I transformed a large set of proofs. The transformed proofs were checked using a specific proof-checking program, the Dedukti. I also implemented ProofCloud. The results were presented in the ESSLLI Student Session, AITP, and the UITP conference.

Professional Skills

- Linked Data Analysis/Management: linked (open) data, large scale knowledge graph, ontology analysis, data integration, alignment, data validation and refinement, data/knowledge management, knowledge engineering, etc.

Teaching

- Deep Learning (2021), second year MSc A.I. and MSc Business Analytics, VU.
- A.I. in Health (2020), MSc A.I., VU&WUST (online).
- Intelligent Systems (2020), first year BSc A.I., VU.
- Knowledge Representation (2017), first year MSc A.I., VU.

Supervision

- Bachelor Thesis: I was involved in the supervision of 10+ bachelor's theses.
- Master Thesis: I was involved in the supervision of 4 master's theses.

Honors

- Open Science Community Amsterdam Awards (OSCA)
- Doctoral Grant (by NWO TOP)
- MPRI-INRIA scholarship

Languages

Chinese	Native
English	C1
French	A2-B1
Dutch	A1-A2

Interests

- Artist (with 2 exhibitions)
- Cello (electric Cello)
- Taekwondo (red belt)
- Travelling (17 countries)

- Graph analysis: graph features analysis, cycle resolving (feedback arc set), evaluation matrices, centrality, clustering, etc.
- Machine Learning: behavior learning, Deep Learning (Graph Convolutional Networks, Recurrent Neural Networks), Turing Learning, etc.
- Natural Language Processing and Human-Agent Interaction: chatbot, text simplification.
- Data Visualisation & communication: statistical analysis and visualisation.
- Software Engineering: agile development, modelling, project management, etc.
- Mathematics: statistics, probability, linear algebra, matrices and tensors, etc.
- Logic: SAT/SMT solving, automated reasoning, first/higher order logic, verification, and proof checking, etc.

Technical Skills

Tools and Utilities for Data/Knowledge Graphs

- Data Processing: pandas, numpy, networkx, scipy, pymetis, Google Sheets, etc.
- Data Query: SPARQL, PyHDT, rdflib, etc.
- Data Formats: CSV, HDT, RDF (Turtle, N-Triples, OWL), XML, JSON, WebGraph, FASTA/BPSEQ, OpenTheory, Dedukti, etc.
- Data Publishing: TriplyDB, Zenodo, YODA, Figshare, etc.

Tools for Modelling, Simulation, and Agent Systems

- Modelling and Visualisation: Blender, Matplotlib, CSS/HTML, JavaScript, Google Map/Slides, LaTeX, Prezi, Canva, etc.
- Simulation: ENKI, HPP, Netlogo, etc.
- Hardware: Raspberry Pi, Leap Motion, etc.
- Interaction: Bluemix Conversation API (IBM Watson), etc.

Generic Tools and Platforms

- Platforms: TensorFlow, PyTorch, Django, Heroku, etc.
- Programming Languages: Python, OCaml, C++, Java, etc.
- Utilities and Tools: ChatGPT, Atom, Protégé, Github, Jupyter Notebook, etc.

Recent Research Results

- N. K. Singh, S. Wang, A. Maineri, R. Siebes, M. Bruyneel, T. Hofstra, S. van de Sandt, R. Siebes, J. van Ossenbruggen, T. Kuhn "Aligning Data Management Plans with Community Standards using FAIR Implementation Profiles", under review at eScience, 2024
- S. Wang, A. Maineri, N. K. Singh, and T. Kuhn, "FAIR Implementation Profiles for Social Science", *International Conference on Metadata and Semantics Research (MTSR)*, 2023
- S. Wang, J. Raad, P. Bloem, and F. van Harmelen, "Refining identity graphs with the Unique Name Assumption," in *Proceedings of 20th European Semantic Web Conference (ESWC)*, 2023
- S. Wang, J. Raad, P. Bloem, and F. van Harmelen, "Refining transitive and pseudo-transitive relations at web scale". in *Proceedings of 18th European Semantic Web Conference (ESWC)*, 2021.

The full CV is attached.
Visit `https://shuai.ai` for more details (and my art)!