Shuai Wang

Artificial Intelligence Scientist

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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.

Work experience

Scientific Engineer — **Vrije Universiteit Amsterdam**

2022 - present

Vrije Universiteit Amsterdam, the Netherlands.

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

PhD student & teaching assistant — **Vrije Universiteit Amsterdam; funded by NWO**

2017 - 2022

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 and COLING. I have also been a teaching assistant for Deep Learning, Intelligent Systems, and A.I. in Health, etc.

Research internship (4 months) — **CNRS: the French National Research Council**

Summer 2016 LAAS-CNRS, the Aerospace Valley, Toulouse, France.

I completed a research internship in the robotics group where I studied taking robots out of a crashed airplane.

Research internship (6 months) — **INRIA ≈ the French equivalent of CWI**

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

I transformed a large set of proofs by loading into a modified reasoner. The transformed proofs were checked using a specific program.

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.
- Graph analysis: graph features analysis, cycle resolving (feedback arc set), evaluation matrices, centrality, 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.

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 12 bachelor's students.
- Master Thesis: I was involved in the supervision of 4 master's students.

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)

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, 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: 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
- D. Vlantis, I. Gornishka, and S. Wang, "Benchmarking the Simplification of Dutch Municipal Text", *The 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation Conference Centre (LREC-COLING)*, 2024.
- S. Wang, M. Adamidou "Examining LGBTQ+-related Concepts in the Semantic Web: Link Discovery, Concept Drift, Ambiguity, and Multilingual Information Reuse", under review at *24th International Conference on Knowledge Engineering and Knowledge Management (EKAW)*, 2024.
- X. Pan, S. Wang, T. Liu, V. de Boer, J. van Ossenbruggen, and Z. Huang, "Enhancing Scholarly Recommendation Systems by Improving the Modeling of the Diversity of Researchers' Interest", *Asian Conference on Intelligent Information and Database Systems (ACIIDS)*, 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.

Updated on 7th June 2024

Visit `https://shuai.ai` for more details.