ŞTEFAN SARKADI

Researcher in Artificial Intelligence

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SUMMARY

- I am a researcher in Artificial Intelligence with a highly interdisciplinary perspective. This enables me to develop approaches by integrating methodologies from Computer Science, Philosophy, Psychology, Sociology, Intelligence Analysis, and Communication Theory.
- Generally, I investigate the reasoning and behaviour of intelligent agents in hybrid societies. In particular, I am interested in aspects of knowledge-sharing interactions in heterogenous Open Multi-agent Systems such as reasoning, communication, information dissemination, and explanation. I am also curious to understand the legal, ethical, and safety aspects of these social interactions, with a particular focus on deception.
- Areas of research: Agent-based Modelling & Multi-Agent Systems; AI Ethics; Explainable AI; Deception.

EDUCATION

PhD in Computer Science (Artificial Intelligence)
King's College London

🗓 2016 - 2020   ♀ London, UK

MSc. in Mind, Language, and Embodied Cognition (Cognitive Science)
The University of Edinburgh

🗓 2014 - 2015   ♀ Edinburgh, UK

B.A. (with Hons.) in Philosophy
West University of Timisoara

🗓 2011 - 2014   ♀ Timisoara, Romania

RESEARCH EXPERIENCE

Post-Doctoral Research Fellow
INRIA, Sophia-Antipolis

🗓 Nov 2020 – present   ♀ Sophia-Antipolis, France

- 3IA Côte d'Azur Project: Design and test multi-agent models and protocols to orchestrate the interactions between agents that embed different AI methods. The aim of this project is ensuring an optimized collaboration to augment, improve, and govern knowledge sharing activities in Multi-Agent Systems.
- Hyper-Agents Project: Define a new class of Multi-Agent Systems that use hypermedia as a general mechanism for uniform interaction to support AI interoperability and traceability in complex interconnected systems.

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PhD Researcher
King's College London, Dept. of Informatics

🗓 Oct 2016 – Oct 2020   ♀ London, UK

- Thesis title: *Deception*
- Research, design, implementation and evaluation of Agent Based Models and Multi-Agent Systems for the study of deception.
- Engineering of complex reasoning and communication mechanisms for deceptive artificial agents using techniques from Game-Theory, Knowledge Representation and Agent-Oriented Programming Languages.
- Extensive interdisciplinary research on the topic of human and machine deception covering literature from Psychology, Philosophy, Sociology, Economics, Neuroscience and Communication Theory.

Visiting PhD Researcher

MIT, Media Lab

📅 Jul 2018 – Oct 2018   📍 Cambridge, MA

- Research, design, implementation and evaluation of evolutionary game-theoretical models of agents.
- Development of evolutionary models using high-level cognitive architectures to promote cooperation and ethical behaviour in agent societies where deception is present.

Research Assistant

King's College London, Dept. of Informatics

📅 Sep 2015 – Sep 2016   📍 London, UK

- Research on the feasibility of applying Blockchain technology for non-proliferation and arms control.
- Big Data analysis of wheat market data for the development of market behaviour models.

TEACHING QUALIFICATIONS & EXPERIENCE

Associate Fellow of the HEA

The Higher Education Academy UK

📅 2019 - present   📍 London, UK

Graduate Teaching Assistant

King's College London, Dept. of Informatics

📅 Sep 2016 – Dec 2019   📍 London, UK

- Guest lecturer - *Artificial Intelligence.*
- Guest lecturer - *Advanced Research Topics in Computer Science.*
- Design and organisation of tutorials and seminar materials - *Philosophy & Ethics of AI* and *Artificial Intelligence.*
- Coursework marking - *Artificial Intelligence.*
- Small group tutorials and seminars teaching - *Introduction to Artificial Intelligence* and *Elementary Logic & Applications.*
- Large group tutorials and seminars teaching - *Artificial Intelligence*; *Elementary Logic & Applications*; and *Philosophy & Ethics of AI.*
- Lab and practicals teaching - *Artificial Intelligence*; *Machine Learning*; *Computer Programming for Data Science*; *Introductory Course to Python* for the MSc in Data Science.

AWARDS & GRANTS

- Lead researcher for *Online Deception Survey Research Grant,* The Alan Turing Institute defence and security ARC (2020). Grant total: **£ 8960**.
- Nomination - Graduate Teaching Assistant for the university-wide *2020 King's Education Awards,* at King's College London.
- Nomination - Department of Informatics *2018/2019 Outstanding Teaching Assistant Award,* at King's College London.
- Two *Best Early Researcher Paper* nominations at the EUMAS-AT conference (2018).
- *Graduate Visiting Researcher Funding,* MIT Media Lab (2018).
- *Conference Travel Grant for IJCAI '18*, Artificial Intelligence Journal (2018).
- *NMS Faculty Studentship Scheme,* King's College London (2018-2020).
- *Graduate Teaching Studentship,* King's College London (2016-2018).
- *Academic Performance Scholarship,* West University of Timişoara (2012-2014).

PROFESSIONAL ACTIVITIES

- *Co-chair* of the 1st and 2nd International Workshops on Deceptive AI @ECAI2020 & @IJCAI2021.
- *Co-founder and co-editor* of the Online Handbook of Argumentation for Artificial Intelligence (OHAAI).
- Co-organiser of the Distributed AI research group seminars, Dept. of Informatics, King's College London.
- *Co-founder* of the Argumentation Reading Group, King's College London.
- *PC Member* - 1st, 2nd and 3rd International Workshops on Explainable Transparent Autonomous Agent and Multi-Agent Systems (EXTRAAMAS).
- *PC Member* - 1st International Conference on AI for People (CAIP'21).
- *Reviewer* - Annual International Conference on Human-Agent Interaction (HAI 2018).
- *Reviewer* - Journal of Autonomous Agents & Multi-Agent Systems (JAAMAS).
- *Reviewer* - Decision Support Systems (DECSUP).
- *Reviewer* - Journal of Logic and Computation (JLC).
- *Reviewer* - The Knowledge Engineering Review (KER).

PUBLICATIONS

📑 Journals

Ștefan Sarkadi, Alex Rutherford, Peter McBurney, Simon Parsons, Iyad Rahwan [2021]: *The Evolution of Deception*. In: *Royal Society Open Science - In Press*

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Ștefan Sarkadi, Alison R. Panisson, Rafael H. Bordini, Peter McBurney, Simon Parsons, Martin Chapman [2019]: *Modelling Deception using Theory of Mind in Multi-Agent Systems*. In: *AI Communications* 32.4, pp.287–302.

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👥 Conference Proceedings

Mosca, Francesca, **Ștefan Sarkadi**, Jose M. Such, Peter McBurney [2020]: Agent EXPRI: Licence to Explain. *Proceedings of 2nd International Workshop on EXplainable TRansparent Autonomous Agents and Multi-Agent Systems*, Auckland, New Zealand, 9-13 May 2020.

Ștefan Sarkadi [2019]: Deceptive Autonomous Agents. *Proceedings of the Shrivenham Defence and Security Doctoral Symposium*, Shrivenham, UK, 12-13 Nov 2019.

Ștefan Sarkadi, Peter McBurney, Simon Parsons [2019]: Deceptive Storytelling in Artificial Dialogue Games. *Proceedings of the AAAI 2019 Spring Symposium on Story-Enabled Intelligence*, Stanford, USA, 25-27 March 2019.

Ștefan Sarkadi, Alison R. Panisson, Rafael H. Bordini, Peter McBurney, Simon Parsons [2018]: Towards an Approach for Modelling Uncertain Theory of Mind in Multi-Agent Systems. *Proceedings of the 6th International Conference on Agreement Technologies*, Bergen,Norway, 6-7 December 2018.

Alison R. Panisson, **Ștefan Sarkadi**, Peter McBurney, Simon Parsons, Rafael H. Bordini [2018]: On the Formal Semantics of Theory of Mind in Agent Communication. *Proceedings of the 6th International Conference on Agreement Technologies*, Bergen,Norway, 6-7 December 2018.

Ștefan Sarkadi [2018]: Deception. *Proceedings of the 27th International Joint Conference on Artificial Intelligence*, IJCAI 2018, Stockholm, Sweden, 13-19 July 2018.

Alison R. Panisson, **Ștefan Sarkadi**, Peter McBurney, Simon Parsons, Rafael H. Bordini [2018]: Lies, B*llshit, and Deception in Agent-Oriented Programming Languages. *Proceedings of the 20th International TRUST Workshop (TRUST 2018)*, IJCAI 2018, Stockholm, Sweden, 14/15 July 2018.

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📕 Edited Collections

Proceedings of the 1st and 2nd International Workshops on Deceptive AI. [Upcoming 2021]. Springer.

Online Handbook of Argumentation for AI [2021]. Vol.2. ArXiv.

Online Handbook of Argumentation for AI [2020]. Vol.1. ArXiv.

📖 Book Chapters

Ștefan Sarkadi [2020]: Argumentation-based Dialogue Games for Modelling Deception. In: Online Handbook for Argumentation in AI Vol.1.

Florin Lobonț, **Ștefan Sarkadi** [2016]: Religion in the public cybersphere of social machines. 3e Colloque International Comsymbol (Comsymbol 2016), Montpellier, France, 9-10 Nov 2016. Book Chapter in Mihaela-Alexandra Tudor and Stefan Bratosin (Eds.): Religion(s), Laïcité(s) Et Société(s) Au Tournant Des Humanités Numériques.

Ștefan Sarkadi [2016]: Artificial Consciousness in an Artificial World. In: M. Micle and C. Mesaroș (Edis): *Communication Today: An Overview from Online Journalism to Applied Philosophy*, Trivent Publishing.

TALKS & LECTURES

A Short Introduction into Deception & AI
Philosophy of AI Seminar Series, Dept. of Philosophy, West University of Timisoara

📅 May 2021   📍 Timisoara, Romania (online)

AI & Deception in Multi-Agent Systems
WIMMICS Seminar Series, Inria

📅 Feb 2021   📍 Sophia-Antipolis, France (online)

Deceptive AI
Distributed AI Seminar Series, King's College London

📅 Nov 2020   📍 London, UK (online)

AI & Ethics
Guest Lecture for the Artificial Intelligence Module, King's College London

📅 Dec 2019   📍 London, UK

Deceptive Autonomous Agents
Shrivenham Defence and Security Symposium

📅 Nov 2019   📍 Shrivenham, UK

Deceptive Storytelling in Argumention Games
Reasoning and Planning Group Seminar, King's College London

📅 May 2019   📍 London, UK

Deceptive Storytelling in Artificial Dialogue Games
AAAI 2019 Spring Symposium

📅 March 2019   📍 Stanford, California

Towards an Approach for Modelling Uncertain Theory of Mind in Multi-Agent Systems
EUMAS-AT 2018

📅 Dec 2018   📍 Bergen, Norway

On the Formal Semantics of Theory of Mind in Agent Communication
EUMAS-AT 2018

📅 Dec 2018   📍 Bergen, Norway

Lies, Bullshit and Deception in Agent-Oriented Programming Languages
20th International TRUST Workshop @ IJCAI/AAMAS

📅 July 2018   📍 Stockholm, Sweden

Is Your AI Cheating on You?

Doctoral Consortium of IJCAI'18

📅 July 2018   📍 Stockholm, Sweden

Deception: A Multi-Agent Systems Approach

Guest Lecture for Advanced Research Topics in Computer Science Module, King's College London

📅 Nov 2017   📍 London, UK

Modelling Deception

Agents and Intelligent Systems PhD Symposium, King's College London

📅 Aug 2017   📍 London, UK

Religion in the Public Cybersphere of Social Machines

COMSYMBOL 2016

📅 Nov 2016   📍 Montpellier, France

Blockchains for Non-Proliferation and Arms Control

Poster Talk at Big Data Day @King's, King's College London

📅 Oct 2016   📍 London, UK

Introduction to Cognitive Science

Guest Lecture for the Psychology Module, Dept. of Philosophy, West University of Timisoara

📅 Jan 2016   📍 Timisoara, Romania