

Ali Farjami

Curriculum Vitae

Luxembourg
Esch-sur-Alzette
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Professional Experience

- 2024 – **Postdoc**, *Interdisciplinary Centre for Security, Reliability and Trust, University of Luxembourg*, Luxembourg, Luxembourg
- 2020 – 2024 **Postdoc**, *School of Computer Engineering, Iran University of Science and Technology*, Tehran, Iran

Education

- 2016 – 2020 **Ph.D., Computer Science**, *Individual and Collective Reasoning Group, Computer Science Department, University of Luxembourg*, Esch-sur-Alzette, Luxembourg
Committee: Leon van der Torre (supervisor), Pierre Kelsen, Jan Broersen, Dov Gabbay, Christian Straßer
Thesis: Discursive Input/Output Logic: Deontic Modals, and Computation
- 2011–2014 **M.Sc., Pure Mathematics**, *School of Mathematics, Statistics and Computer Science, College of Science, University of Tehran*, Tehran, Iran
Committee: Majid Alizadeh (supervisor), Ahmad Shafiei Dehabadi, Mohammad Ardeshtir
Thesis: Conditional Doxastic Logic and Learning
- 2007–2011 **B.Sc., Pure Mathematics**, *School of Mathematics, Statistics and Computer Science, College of Science, University of Tehran*, Tehran, Iran
Advisor: Majid Alizadeh **Project**: Platonism and Anti-Platonism

Publications

- 2024 **AI Alignment and Normative Reasoning: Addressing Uncertainty through Deontic Logic**, *Submitted to Artificial Intelligence Journal*
(Ali Farjami)
- 2024 **Obligations and Permission, Algebraically**, *arXiv preprint arXiv:2403.03148*, Submitted to Annals of Pure and Applied Logic
(Andrea De Domenico, Ali Farjami, Krishna Manoorkar, Alessandra Palmigiano, Mattia Panettiere, and Xiaolong Wang)
- 2024 **Obligations and Permissions on Selfextensional Logics**, *arXiv preprint arXiv:2402.07336*, Submitted to Journal of Philosophical Logic
(Andrea De Domenico, Ali Farjami, Krishna Manoorkar, Alessandra Palmigiano, Mattia Panettiere, and Xiaolong Wang)
- 2023 **Emulating the Human Mind: A Neural-symbolic Link Prediction Model with Fast and Slow Reasoning and Filtered Rules**, *arXiv preprint arXiv:2310.13996*, Submitted to Transactions of the Association for Computational Linguistics
Mohammad Hossein Khojasteh, Najmeh Torabian, Ali Farjami, Saeid Hosseini, Behrouz Minaei-Bidgoli
- 2022 **Subordination Algebras as Semantic Environment of Input/Output Logic**, *28th Workshop on Logic, Language, Information and Computation*
(Andrea De Domenico, Ali Farjami, Krishna Manoorkar, Alessandra Palmigiano, Mattia Panettiere, and Xiaolong Wang)
- 2022 **Experiments in Kratzer Modal Semantics Using Isabelle/HOL**, *2nd Logics for New-Generation AI workshop (LNGAI)*, Sun Yat-sen University
(Ali Farjami)
- 2022 **Dyadic Deontic Logic in HOL: Faithful Embedding and Meta-Theoretical Experiments**, In Rahman, S., Armgardt, M., Nordtveit Kvernenes, H. C., editor(s), *New Developments in Legal Reasoning and Logic: From Ancient Law to Modern Legal Systems*, Springer Nature Switzerland AG
(Christoph Benz Müller, Ali Farjami, Xavier Parent)
- 2021 **New Algebraic Normative Theories for Ethical and Legal Reasoning in the LogiKEy Framework**, *arXiv preprint arXiv:2107.11838*
(Ali Farjami)
- 2020 **Discursive Input/Output Logic: Deontic Modals, Norms, and Semantic Unification**, *18th International Workshop on Non-Monotonic Reasoning*
(Ali Farjami)
- 2020 **LogiKEy Workbench: Deontic Logics, Logic Combinations and Expressive Ethical and Legal Reasoning**, *Isabelle/HOL Dataset*, In Data in Brief, Elsevier
(Christoph Benz Müller, Ali Farjami, David Fuenmayor, Paul Meder, Xavier Parent, Alexander Steen, Leendert van der Torre, Valeria Zahoransky)
- 2019 **Machine Argumentation: Can We Replace Taxi Drivers by Robots?**, In Book *Natural Arguments, A Tribute to John Woods*, College Publication
(Dov Gabbay, Marcos Cramer, Jérémie Dauphin, Ali Farjami, Lydia Rivlin, Leendert van der Torre)

- 2019 **Legal Reasoning and Some Logic after All the Lessons of the Elders**, *In Book Natural Arguments, A Tribute to John Woods*, College Publication (Shahid Rahman, Johan Georg Granström, Ali Farjami)
- 2019 **I/O Logic in HOL**, *Journal of Applied Logics – IfCoLoG Journal of Logics and their Applications*, 6, 715-732 (Christoph Benz Müller, Ali Farjami, Xavier Parent)
- 2019 **Åqvist’s Dyadic Deontic Logic E in HOL**, *Journal of Applied Logics – IfCoLoG Journal of Logics and their Applications*, 6, 733-755 (Christoph Benz Müller, Ali Farjami, Xavier Parent)
- 2018 **A Dyadic Deontic Logic in HOL**, *Deontic Logic and Normative Systems — 14th International Conference, DEON 2018*, College Publications, 33-50 (Christoph Benz Müller, Ali Farjami, Xavier Parent)

Students

- 2023– **Reza Alidost**, *Iran University of Science and Technology*, Uncertain Reasoning on Knowledge Graphs, M.Sc.
- 2020–2023 **Mohammad Hossein Khojasteh**, *Iran University of Science and Technology*, An Explainable Method for Link Prediction in Knowledge Graphs, M.Sc.

Summer/Winter Schools

- 2021 **Midlands Graduate School in the Foundations of Computing Science**, *University of Sheffield, UK*
- 2021 **32th European Summer School in Logic, Language, and Information**, *University of Utrecht, Netherlands*
- 2020 **Web Summer School in Logic, Language, and Information (WeSSLLI)**, *Brandeis University, US*
- 2020 **16th Reasoning Web Summer School**, *Virtual*
- 2019 **Ethics of Autonomous Vehicles Winter School**, *University of Luxembourg*
- 2018 **6th World Congress and School on Universal Logic**, *Vichy, France*
- 2018 **FMV 2018: Foundations in Mathematics—Modern Views**, *Ludwig Maximilians Universität München, Munich, Germany*
- 2017 **Summer School on Law and Logic**, *European University Institute in Florence, Italy*
- 2017 **Summer School on Normativity**, *University of Zürich, Zürich, Switzerland*
With Ralph Wedgwood and Hannah Ginsborg.
- 2017 **29th European Summer School in Logic, Language, and Information**, *University of Toulouse, Toulouse, France*
- 2012 **IPM Summer School on Naming, Meaning, and Necessity**, *Institute for Studies in Fundamental Science, Tehran, Iran*

Teaching Experience

- 2017 – 2019 **Teaching Assistant**, *Intelligent Agents II*, L. van der Torre, X. Parent, University of Luxembourg
- 2019 – 2020 **Teaching Assistant**, *Intelligent Agents I*, L. van der Torre, A. Steen, University of Luxembourg
- 2017 – 2019 **Teaching Assistant**, *Intelligent Systems - Agents and Reasoning*, L. van der Torre, G. Casiani, University of Luxembourg
- 2017 **Teaching Assistant**, *Discrete Mathematics II*, B. Teheux, University of Luxembourg
- 2011-2015 **Teaching Assistant**, *Mathematical Logic*, M. Alizadeh, University of Tehran
- 2012 **Teaching Assistant**, *Calculus I*, H. Sabzro, University of Tehran
- 2011 **Teaching Assistant**, *Calculus I*, F.A. Shirazi, University of Tehran

Talks

- 2022 **Subordination Algebras as Semantic Environment of Input/Output Logic**, *The 10th Annual Conference of the Iranian Association for Logic*, Amirkabir University, Iran
- 2021 **Normative Reasoning in Isabelle/HOL**, *Midlands Graduate School in the Foundations of Computing Science*, University of Sheffield, UK
- 2021 **Normative Reasoning: A Computational Challenge**, *GI Meetings on Deductions Systems and Logic in Computer Science*, Germany
- 2021 **Norms + Informational Modalities**, *Seminar in Semantics: Conditionals (LINGUIST 236)*, Stanford University
- 2021 **Discursive Input/Output Logic**, *Eight Annual Conference of the Iranian Association for Logic*, Tarbait Modares, Iran
- 2020 **Discursive Input/Output Logic: Deontic Modals, Norms, and Semantic Unification**, *18 th International Workshop on Non-Monotonic Reasoning*
- 2020 **Logic as Secretarial Assistant**, *16th Reasoning Web Summer School*, Virtual
- 2019 **Experiments in Deontic Logics using Isabelle/HOL**, *Deduktionstreffen, Fachgruppe Deduktionsysteme, Fachbereich KI, Gesellschaft für Informatik*, Kassel, Germany
- 2018 **Åqvist's Dyadic Deontic Logic E in HOL**, *MIREL 2018 workshop on Mining and Reasoning with Legal texts*, University of Luxembourg
- 2018 **A Dyadic Deontic Logic in HOL**, *14th International Conference in Deontic Logic and Normative Systems, DEON 2018*, Utrecht, The Netherlands
- 2018 **Isabelle/HOL: a Computational Framework for Normative Reasoning**, *Normative Multi-Agent Systems, Dagstuhl Seminar 18171*
- 2018 **Implementation of Dyadic Deontic Logic E in Isabelle/HOL**, *10th edition of PhDs in Logic*, Institute of Computer Science and the Institute of Philosophy of the Czech Academy of Sciences and by the Department of Logic of Charles University, Prague, Czech Republic

- 2017 **Implementation of Carmo and Jones Dyadic Deontic Logic in Isabelle/HOL**, *Computational Aspects of Arguments and Logic (CAALC 2017)*, Mathematical Institute, Serbian Academy of Sciences and Arts

Honors

- 2013 Recognized as a special talent in Tehran University, and entrance to master degree of science in mathematics directly without passing the cross-country entrance exam
- 2013 Full grant for traveling “Logic, Questions and Inquiry A conference on Hintikka’s Interrogative Model of Inquiry”, 30 May-1 Jun, 2013, Paris (France)
- 2018 John-Jules Meyer Best Paper Award, DEON 2018

Skills

Programming Functional programming, Java Script, Python, HTML, CSS
Sem. web XML, RDF, RDFS, OWL2, SPARQL, RuleML
Reasoners Isabelle/HOL, Protégé

References

Leon van der Torre University of Luxembourg, leon.vandertorre@uni.lu

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Christoph Benz Müller Freie Universität (FU) Berlin, c.benzmueller@gmail.com