Stylianos Loukas Vasileiou

McKelvey School of Engineering
Washington University in St. Louis
Saint Louis, MO, 63130, USA
v.stylianos@wustl.edu
thestlucas.com

RESEARCH INTERESTS

Human-Aware AI: Explainable Decision-Making, Collaborative Decision-Making, User Modeling

Knowledge Representation & Reasoning: Formal Logic, Argumentation, Belief Revision

Other: Neuro-symbolic AI

EDUCATION

Ph.D. in Computer Science   SP' 2019 – FL' 2024 (Expected)
Washington University in St. Louis, USA
Thesis: *Explainable Decision-Making: From Formal Logic to AI Systems with Explainable Behavior*
Advisor: Prof. William Yeoh

M.S. in Artificial Intelligence   FL' 2016 – FL' 2017
University of Southampton, UK
Thesis: *Asthma Attack Prediction: A Machine Learning Approach*
Advisor: Prof. Long Tran Thanh

M.S. in Applied Mathematics   FL' 2015 – FL' 2016
University of Glasgow, UK
Thesis: *Feedback Between Mechanical Contraction and Electrical Excitation in Cardiac Cells*
Advisor: Prof. Radostin Simitev

B.S. in Statistics and Actuarial–Financial Mathematics   FL' 2010 – FL' 2014
University of the Aegean, GR
Thesis: *Mathematical Modeling of Micro-Electromechanical Systems*
Advisor: Prof. Nikolaos Kavallaris

EXPERIENCE

Graduate Research Assistant

- Washington University in St. Louis   2019 – 2024
- University of Southampton   2017
- University of Glasgow   2016

PUBLICATIONS

Preprints & Under Review

[1] **Stylianos Loukas Vasileiou**, Antonio Rago, Francesca Toni, William Yeoh, and Tran Cao Son. "A Methodology for Gradual Semantics for Structured Argumentation under Incomplete Information". In: *arXiv preprint arXiv:2410.22209*. 2024.

[2] **Stylianos Loukas Vasileiou** and William Yeoh. "Human-Aware Belief Revision: A Cognitively Inspired Framework for Explanation-Guided Revision of Human Models". In: *arXiv preprint arXiv:2405.19238*. 2024.

[3] **Stylianos Loukas Vasileiou**, William Yeoh, Alessandro Previti, and Tran Cao Son. "On Generating Monolithic and Model Reconciling Explanations in Probabilistic Scenarios". In: *arXiv preprint arXiv:2405.19229*. 2024.

[4] Yinxu Tang, **Stylianos Loukas Vasileiou**, William Yeoh, Alberto Pozanco, and Daniel Borrajo. "A Proactive-Reactive Framework for Fairness-Aware Lifelong Meeting Scheduling". In: 2024.

Journal Articles

[1] **Stylianos Loukas Vasileiou**, William Yeoh, Tran Cao Son, Ashwin Kumar, Michael Cashmore, and Daniele Magazzeni. "A Logic-based Explanation Generation Framework for Classical and Hybrid Planning Problems". In: *Journal of Artificial Intelligence Research (JAIR)* (2022).

Conference Papers

[1] **Stylianos Loukas Vasileiou** and William Yeoh. "TRACE-cs: A Synergistic Approach to Explainable Course Scheduling Using LLMs and Logic". In: *AAAI Conference on Artificial Intelligence (Demo Track)*. 2025.

[2] Yinxu Tang, **Stylianos Loukas Vasileiou**, and William Yeoh. "Does Your AI Agent Get You? A Personalizable Framework for Approximating Human Models from Argumentation-based Dialogue Traces". In: *AAAI Conference on Artificial Intelligence*. 2025.

[3] **Stylianos Loukas Vasileiou**, Ashwin Kumar, William Yeoh, Tran Cao Son, and Francesca Toni. "Dialectical Reconciliation via Structured Argumentative Dialogues". In: *Proceedings of the International Conference on Principles of Knowledge Representation and Reasoning*. 2024, pp. 777–787.

[4] **Stylianos Loukas Vasileiou**, Xu Borong, and William Yeoh. "A Logic-based Framework for Explainable Agent Scheduling Problems". In: *European Conference on Artificial Intelligence (ECAI)*. 2023.

[5] **Stylianos Loukas Vasileiou** and William Yeoh. "PLEASE: Generating Personalized Explanations in Human-Aware Planning". In: *European Conference on Artificial Intelligence (ECAI)*. 2023.

[6] Ashwin Kumar, **Stylianos Loukas Vasileiou**, Melanie Bancilhon, Alvitta Ottley, and William Yeoh. "VizXP: A Visualization Framework for Conveying Explanations to Users in Model Reconciliation Problems". In: *International Conference on Automated Planning and Scheduling (ICAPS)*. 2022.

[7] **Stylianos Loukas Vasileiou**, Alessandro Previti, and William Yeoh. "On Exploiting Hitting Sets For Model Reconciliation". In: *AAAI Conference on Artificial Intelligence*. 2021.

[8] Son Tran Cao, Van Nguyen, **Stylianos Loukas Vasileiou**, and William Yeoh. "Model Reconciliation in Logic Programs". In: *European Conference on Logics in AI (JELIA)*. 2021.

[9] Van Nguyen, **Stylianos Loukas Vasileiou**, Son Tran Cao, and William Yeoh. "Conditional Updates of Answer Set Programming and Its Application in Explainable Planning (Extended Abstract)". In: *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*. 2020.

[10] Van Nguyen, **Stylianos Loukas Vasileiou**, Son Tran Cao, and William Yeoh. "Explainable Planning Using Answer Set Programming". In: *International Conference on Principles of Knowledge Representation and Reasoning (KR)*. 2020.

[11] Son Tran Cao, Van Nguyen, **Stylianos Loukas Vasileiou**, and William Yeoh. "Conditional Updates of Logic Programs and its Applications (Poster Presentation)". In: *International Conference on Principles of Knowledge Representation and Reasoning (KR)*. 2020.

Workshop & Symposium Papers

[1] Yinxu Tang, **Stylianos Loukas Vasileiou**, and William Yeoh. "Approximating Human Mental Models During Argumentation-based Dialogues". In: *ICAPS Workshop on Human-aware and Explainable Planning*. 2024.

[2] Silvia Tulli, **Stylianos Loukas Vasileiou**, and Sarath Sreedharan. "Human-Modeling in Sequential Decision-Making: An Analysis through the Lens of Human-Aware AI". In: *ICAPS Workshop on Human-aware and Explainable Planning*. 2024.

[3] Andrew Estornell, **Stylianos Loukas Vasileiou**, William Yeoh, and Daniel Borrajo. "Predicting Customer Goals in Financial Institution Services: A Data-Driven LSTM Approach". In: *International Conference on Automated Planning and Scheduling (ICAPS) Workshop on Financial Planning*. 2023.

[4] **Stylianos Loukas Vasileiou**. "Towards a Logical Account for Human-Aware Explanation Generation in Model Reconciliation Problems". In: *International Conference on Autonomous Agents and Multiagent Systems (AAMAS) Doctoral Consortium*. 2023.

[5] **Stylianos Loukas Vasileiou**, Ashwin Kumar, William Yeoh, Son Tran Cao, and Francesca Toni. "DR-HAI: Argumentation-based Dialectical Reconciliation in Human-AI Interactions". In: *International Joint Conference on Artificial Intelligence (IJCAI) Workshop on Explainable AI*. 2023.

[6] **Stylianos Loukas Vasileiou**, Ashwin Kumar, and William Yeoh. "On Generating Personalized Explanations via Knowledge Forgetting". In: *International Joint Conference on Artificial Intelligence (IJCAI) Workshop on XAI*. 2022.

[7] **Stylianos Loukas Vasileiou**, William Yeoh, Son Tran Cao, and Alessandro Previti. "Explanations as Model Reconciliation via Probabilistic Logical Reasoning". In: *International Conference on Principles of Knowledge Representation and Reasoning (KR) Workshop on Explainable Logic*. 2021.

[8] **Stylianos Loukas Vasileiou**, William Yeoh, and Tran Cao Son. "On the Relationship Between KR Approaches for Explainable Planning". In: *International Conference on Automated Planning and Scheduling (ICAPS) Workshop on XAIP*. 2020.

[9] **Stylianos Loukas Vasileiou**, Son Tran Cao, and William Yeoh. "A Preliminary Logic-based Approach for Explanation Generation". In: *International Conference on Automated Planning and Scheduling (ICAPS) Workshop on Explainable AI Planning*. 2019.

ADVISING

M.S. Students

- Yuxiao Wang   SP'23 – FL'23
  Project title: Generating Natural Language Explanations for Explainable Planning
  University: Washington University in St. Louis

- Ruoyao Yang   SP'20 – FL'20
  Project title: Visualizations in Explainable Planning
  University: Washington University in St. Louis

B.S. Students

- Benjamin Watkins,   SP'23 - SU'24
  Project title: Proactive Rescheduling with Fairness Guarantees
  University: Washington University in St. Louis

- Bob Xiao   FL'23 – SP'23
  Project title: Goal Prediction in Financial Settings
  University: Washington University in St. Louis

- Tanish Agarwal,   SU'22
  Project title: Fairness-aware Scheduling
  University: IIT-Delhi (REU)

- Borong Xu   FL'22 – SP'23
  Project title: Explainable Agent Scheduling Problems
  University: Washington University in St. Louis

TEACHING

Washington University in St. Louis

- CSE 412A/511A: Introduction to Artificial Intelligence   FL'21, SP'22

SERVICE

Workshop Organizing Committee

- International Conference on Automated Planning and Scheduling (ICAPS) Workshop on Human-Aware and Explainable Planning (HAXP)   2021 –

Program Committee/Reviewer

- Association for the Advancement of Artificial Intelligence (AAAI)   2024 –

- European Conference on Artificial Intelligence (ECAI)   2023

- International Joint Conference on Artificial Intelligence (IJCAI)   2023 –

- International Conference on Autonomous Agents and Multiagent Systems (AAMAS)   2020, 2023 –

- International Conference on Automated Planning and Scheduling (ICAPS)   2022, 2024 –

- Artificial Intelligence Journal (AIJ)   2023 –
- IJCAI Workshop on Explainable AI (XAI)   2023 –
- ECAI Workshop on Trustworthy Sequential Decision-making and Pptimization (TSDO)   2024
- ICAPS Workshop on Explainable AI Planning (XAIP)   2020

EVENTS & ACTIVITIES

- Dagstuhl Seminar on Explainable AI for Sequential Decision-Making   Sept. 2024
- We Belong CS@WashU: Talk on *Introduction to AI*   Jan. 2020, Sept. 2021
- We Belong CS@WashU: Member of the organization team   Jan. 2020
- Parkway North High School, Saint Louis, MO: Workshop on *Introduction to AI*   Nov. 2019

Last Updated: December 11, 2024