

# Stylianos Loukas Vasileiou

Washington University in St. Louis

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## RESEARCH INTERESTS

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**Human-Aware AI:** Explainable Decision-Making, Human Modelling, Collaborative Decision-Making,

**Other:** Logic, Argumentation, Neuro-Symbolic AI

## EDUCATION

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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

## PUBLICATIONS

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### Preprints & Under Review

- [1] **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.
- [2] **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.
- [3] 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: *arXiv preprint arXiv:2405.18650*. 2024.
- [4] Yinxu Tang, **Stylianos Loukas Vasileiou**, William Yeoh, Alberto Pozanco, and Daniel Borrajo. “Lifelong Meeting Scheduling with Fairness Guarantees”. In: 2024.
- [5] Silvia Tulli, **Stylianos Loukas Vasileiou**, and Sarath Sreedharan. “Inferring Implicit Goals Across Differing Task Models”. 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] **Stylianios Loukas Vasileiou**, Ashwin Kumar, William Yeoh, Son Tran Cao, and Francesca Toni. “Dialectical Reconciliation via Structured Argumentative Dialogues”. In: *Proceedings of International Conference on Principles of Knowledge Representation and Reasoning (KR)*. 2024.
- [2] **Stylianios Loukas Vasileiou**, Xu Borong, and William Yeoh. “A Logic-based Framework for Explainable Agent Scheduling Problems”. In: *European Conference on Artificial Intelligence (ECAI)*. 2023.
- [3] **Stylianios Loukas Vasileiou** and William Yeoh. “PLEASE: Generating Personalized Explanations in Human-Aware Planning”. In: *European Conference on Artificial Intelligence (ECAI)*. 2023.
- [4] Ashwin Kumar, **Stylianios 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.
- [5] **Stylianios Loukas Vasileiou**, Alessandro Previti, and William Yeoh. “On Exploiting Hitting Sets For Model Reconciliation”. In: *AAAI Conference on Artificial Intelligence (AAAI)*. 2021.
- [6] Son Tran Cao, Van Nguyen, **Stylianios Loukas Vasileiou**, and William Yeoh. “Model Reconciliation in Logic Programs”. In: *European Conference on Logics in AI (JELIA)*. 2021.
- [7] Van Nguyen, **Stylianios 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.
- [8] Van Nguyen, **Stylianios 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.
- [9] Son Tran Cao, Van Nguyen, **Stylianios 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, **Stylianios 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, **Stylianios 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, **Stylianios 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] **Stylianios 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.
- [5] **Stylianios 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.
- [6] **Stylianios 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.
- [7] **Stylianios 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 XAI*. 2020.
- [8] **Stylianios 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  
Project title: Generating Natural Language Explanations for Explainable Planning

SP’23 – FL’23

- Ruoyao Yang SP'20 – FL'20  
Project title: Visualizations in Explainable Planning

## B.S. Students

- Benjamin Watkins, SP'23 - SU'24  
Project title: Proactive Rescheduling with Fairness Guarantees
- Bob Xiao FL'23 – SP'23  
Project title: Goal Prediction in Financial Settings
- Borong Xu FL'22 – SP'23  
Project title: Explainable Agent Scheduling Problems

## SERVICE

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### 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, 2024
- 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

## OTHER ACTIVITIES

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- 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