Stylianos Loukas Vasileiou

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

RESEARCH INTERESTS

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

Knowledge Representation & Reasoning: Logic, Argumentation, Belief Revision

EDUCATION

Ph.D. in Computer Science — SEPT 2018 – SEPT 2024 (Expected)
Washington University in St. Louis, USA
Thesis: *The Art of Explanation: From Formal Logic to Human-Aware AI Agents*
Advisor: Prof. William Yeoh

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

M.S. in Applied Mathematics — SEPT 2015 – SEPT 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 — SEPT 2010 – SEPT 2014
University of the Aegean, GR
Thesis: *Mathematical Modeling of Micro-Electromechanical Systems*
Advisor: Prof. Nikolaos Kavallaris

PUBLICATIONS

Preprints & Under Review

[1] **Stylianos Loukas Vasileiou** and William Yeoh. "Explanation-based Belief Revision: Moving Beyond Minimalism to Explanatory Understanding". 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. "A Bayesian Approach to Approximating Probabilistic Human Models from Argument Traces". In: *arXiv preprint arXiv:2405.18650*. 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**, 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] **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.

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

[4] 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.

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

[7] 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.

[8] 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.

[9] 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**, 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] **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.

[6] **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.

[7] **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.

[8] **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 S'23 – F'23
  Project title: Generating Natural Language Explanations for Explainable Planning
- Ruoyao Yang S'20 – F'20
  Project title: Visualizations in Explainable Planning

B.S. Students

- Benjamin Watkins, S'23 –
  Project title: Proactive Rescheduling with Fairness Guarantees

- Bob Xiao F'23 – S'23
  Project title: Goal Prediction in Financial Settings
- Borong Xu F'22 – S'23
  Project title: Explainable Agent Scheduling Problems

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, 2025
- European Conference on Artificial Intelligence (ECAI) 2023
- International Joint Conference on Artificial Intelligence (IJCAI) 2023, 2024
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2020, 2023, 2024
- International Conference on Automated Planning and Scheduling (ICAPS) 2022, 2024
- Artificial Intelligence Journal (AIJ) 2023, 2024
- International Joint Conference on Artificial Intelligence (IJCAI) Workshop on Explainable AI (XAI) 2023, 2024
- International European Conference on Artificial Intelligence (ECAI) Workshop on Trustworthy Sequential Decision-making and Pptimization (TSDO) 2024
- International Conference on Automated Planning and Scheduling (ICAPS) Workshop on Explainable AI Planning (XAIP) 2020

OTHER ACTIVITIES

- 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: August 3, 2024