TECHNISCHE UNIVERSITÄT WIEN

CAIML Center for Artificial Intelligence and Machine Learning

iCAIML DOCTORAL COLLEGE

"Innovative Combinations and Applications of AI and ML"

https://caiml.org/icaiml/

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The mission of our doctoral college on “Innovative Combinations and Applications of AI and ML” is to investigate the combination of symbolic- and sub-symbolic AI techniques in connection with novel application domains.

Goals:

- Provide top research training committed to excellence in the field of AI and ML, with a unique combination of the areas of symbolic and sub-symbolic AI
- Educate doctoral students to address complex research problems in connection with concrete application domains
- Establish sustainable know-how exchange in the field of symbolic AI and ML through a tight collaboration between industrial and university partners with a focus on foundational problems
- Making the next generation of AI researchers aware of the impact (ethical, environment, etc.) their work might have and define concrete for measures for doing so (in connection with the Digital Humanism activities of TU Wien)

We expect synergetic effects in both directions:

(1) novel combinations of AI methods can pave the way for applications of AI techniques in so far less explored domains

(2) the requirement in specific applications can guide and instruct fundamental research in the field of AI.

This calls for collaboration

- Between different faculties of TU Wien
- With industry partners

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Following faculties are part of iCAIML

- Faculty of Informatics
- Faculty of Mathematics and Geoinformation
- Faculty of Architecture and Planning
- Faculty of Physics
- Faculty of Technical Chemistry

Decision Support in Intensive Care
supervised by Clemens Heitzinger

Mohammad Mahdi Azarbeik

AI for Dementia Care
supervised by Martin Kampel

Irene Ballester

AI for Air Traffic Management
supervised by Stefan Woltran and Nysret Musliu

Alexander Beiser

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Advanced Solving Techniques for Production Planning and Scheduling
supervised by Nysret Musliu and Stefan Woltran

Lukas Frühwirth

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Learning Paradigms for Quantum Computers
supervised by Ivona Brandic and Sabine Andergassen

Sabrina Herbst

Open Information Extraction using HRG
supervised by Allan Hanbury

Eszter Iklódi

Graph Neural Networks
supervised by Thomas Gärtner

Fabian Jogl

Towards Explainable and Knowledge-Driven Large Language Models
supervised by Peter Knees and Stefan Woltran

Ilya Lasy

Robust Covariance Estimation and Outlier Detection for Functional Data
supervised by Peter Filzmoser

Jeremy Oguamalam

Robust Statistics for Multi-group Data
supervised by Peter Filzmoser

Patricia Puchhammer

Algorithms for Contactless Fingerprint Recognition
supervised by Clemens Heitzinger and Bernhard Kohn

Laurenz Ruzicka

Deontic Explanations in Legal Reasoning
supervised by Agata Ciabattoni and Réka Markovich

Blaž Istenič Urh

Enhancing Constraint Programming with Large Language Models
supervised by Stefan Szeider

Preference Elicitation in Conversational Recommender Systems
supervised by Julia Neidhardt

Provenance in Evolving Knowledge Graphs
supervised by Katja Hose

Florentina Voboril

Ahmadou Wagne

Koumudi Ganepola

Atomistic Simulations of Electrochemical Interfaces
supervised by Georg Madsen

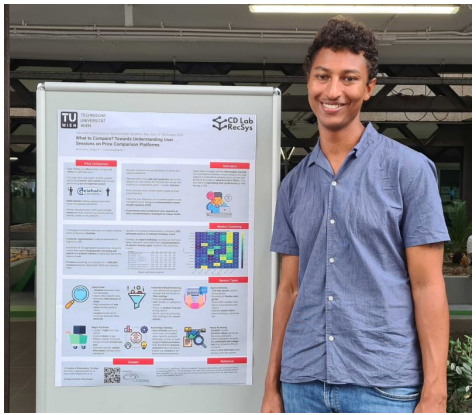
Johannes Schörghuber

Deep Learning for Chemical Reactions
supervised by Esther Heid

Jasper De Landsheere

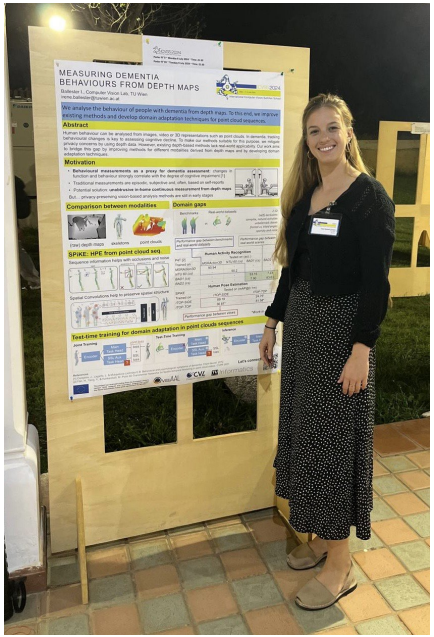
Patricia Puchhammer at the 6th SEMACRET Consortium Meeting in Milan, Italy

Ahmadou Wagne at the ACM Conference on Recommender Systems in Bari, Italy



Alexander Beiser at the International Joint Conference on Artificial Intelligence 2024 in Jeju, South Korea

Irene Ballester at the 18th International Computer Vision Summer School in Sicily, Italy



Florentina Voboril at the 11th Heidelberg Laureate Forum in Heidelberg, Germany

Sabrina Herbst at the 2024 IEEE International Conference on Quantum Computing and Engineering in Montreal, Canada