



INFORMATICS  
EUROPE

# Best Dissertation Award 2023

sponsored by



Springer



INFORMATICS  
EUROPE

## Best Dissertation Award 2023

### Objective:

**Rewarding emerging informatics researchers and disseminating excellent research**

### 2023 Award Committee

- **Elisabetta Di Nitto**, Politecnico di Milano (Chair)
- **Jean Marc Jézequel**, IRISA / University of Rennes
- **Gregor Engels**, Universität Paderborn
- **Harald Gall**, University of Zurich
- **Dimka Karastoyanova**, University of Groningen

sponsored by



Springer



INFORMATICS  
EUROPE

## Best Dissertation Award 2023

### About this year's Award

- A total of 19 nominations received;
- Nominations concerned the best dissertation from each participating institution, developed **in the academic years 2021-2022 or 2022-2023**, but on or before December 31, 2022;
- Each nominating institution had to be an IE member.
- Two phases of review by Award Committee:
  - 1<sup>st</sup> Phase: 7 dissertations shortlisted to second phase
  - 2<sup>nd</sup> Phase: **1 winner and 4 runners-up selected**

sponsored by



Springer



INFORMATICS  
EUROPE

## Best Dissertation Award 2023

### Award Winner receives

- a prize of 3,000 EUR,
- sponsorship to attend ECSS 2023,
- an award plaque,
- an invitation to publish the winning thesis in **Springer's Computer Science program.**

### Award Sponsor



Springer



INFORMATICS  
EUROPE

## Best Dissertation Award 2023

### Award Runners-up (alphabetical order):

- **Salvatore Di Girolamo**, ETH Zurich with dissertation  
«**Application-driven network and storage optimizations**»
- **Sebastian Hofstätter**, TU Wien with dissertation  
«**Optimizing the Cost-Effectiveness Tradeoff in Neural Ranking**»
- **Shiwei Liu**, Eindhoven University of Technology with dissertation  
«**Sparse Neural Network Training with In-Time Over-Parameterization**»
- **Francesco Pierri**, Politecnico di Milano with dissertation  
«**Characterization and detection of disinformation spreading in online social networks**»



INFORMATICS  
EUROPE

## Best Dissertation Award 2023

**Winner**

**Pepa Atanasova**

University of Copenhagen, Denmark

with winning dissertation

**«Accountable and Explainable Methods for Complex Reasoning over Text»**

sponsored by



**Springer**

# Accountable and Explainable Methods for Complex Reasoning over Text

Pepa Atanasova

Informatics Europe 2023 Best Dissertation Award

*Supervisors: Isabelle Augenstein, Jakob Grue Simonsen, Christina Lioma*  
*24 October 2023*



UNIVERSITY OF  
COPENHAGEN



# XAI for Automated Fact Checking

**Borax can be used to treat a variety of health problems, including joint pain, kidney stones, osteoporosis and chronic fatigue.**

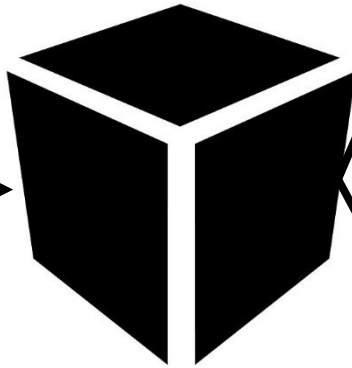
811 1 comment 404 shares



Харесване Споделяне

The most relevant

Cj Bradley Следване  
Raphael Chauvin you should try this for your pain you were telling me about just a pinch in your water daily and watch the results. Trust me on this one brother

Like 12 weeks 9



 Ingesting borax can cause gastrointestinal problems, rashes, and convulsions [1].  
 Boron is a naturally occurring in many foods, the average person gets enough just from eating a healthy diet experts said [2].



Can I trust this model?

How can I debug and improve it?

Is the model vulnerable to adversaries?

Can I trust the explanations?

Is the model's reasoning flawed?

Can I improve the explanations?



# XAI for Complex Reasoning Tasks



## **Accountability**

Reveal critical vulnerabilities of fact checking models.  
Make methodological contributions that improve the reasoning of machine learning models.

AI is not a black box. It's a window into the future, but only if we invest in making that window clear, understandable, and accountable.

It is through transparency that we ensure responsible progress.

**Thank you!**

