Jari Peeperkorn
Curriculum Vitae

PERSONAL DETAILS

Nationality	Dutch
Birth	July 14, 1995 (Leuven, Belgium)
Address	Twaalfmeistraat 6, 3012 Wilsele (Belgium)
Phone	+32 486 65 27 34
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Website	https://jaripeeperkorn.github.io/

EDUCATION

PhD Business economics   2019-2023
KU Leuven

> PhD at the Research Centre for Information Systems Engineering (LIRIS), working on process mining and machine learning. Also following courses on different data science topics.

MSc. Astronomy and Astrophysics   *cum laude*   2016-2019
KU Leuven

> Combination of courses in astrophysics, observational astronomy, and theoretical high energy physics. Master thesis at centre for mathematical plasma-astrophysics: using LSTM neural networks to forecast geomagnetic storms.

BSc. Physics   2013-2017
KU Leuven

> A general bachelor in physics. Minor: astronomy and informatics.

EXPERIENCE

FWO Postdoctoral Researcher   2024-...
Host: KU Leuven

> FWO junior postdoctoral fellowship on the project of "Robust Multi-Modal Prediction in Business Processes"

Postdoctoral Researcher   2023-2024
KU Leuven

> Postdoctoral researcher at the Research Centre for Information Systems Engineering (LIRIS), working on process model forecasting, process mining, and machine learning.

PhD researcher   2019-2023
KU Leuven

> PhD at the Research Centre for Information Systems Engineering (LIRIS), working on process mining and machine learning.

Student Job

Tutor 2016-2018

Slaagsleutels

Tutor in physics for high school students participating in the admission test for Medicin.

Experience as volunteer

Student representative 2015-2019

KU Leuven

Student member POC of physics (2015-2016, 2017-2019), Student member OC of astronomy and astrophysics (2016-2019) Student member department council phyics and astronomy (2015-2019) Student member facultary council sciences (2016-2019), member student council Stura (2015-2019)

Member of presidium 2014-2017

Wina Leuven vzw

Member of the presidium of Wina Leuven vzw in multiple functions: Media (responsible), Big activities, Business relations and Logistics.

Animator 2012-2014

Speelplein Boven-Lo

Animator for kids in the summer (with certificate).

SKILLS

Languages	Dutch (mother tongue)
	English (full professional proficiency)
	French (Limited working proficiency)
	German (Elementary proficiency)
Software	LaTeX, Celonis, OFFICE, LINUX, Maple
Programming	Python (good)
	Java (basic)
	Matlab (basic)
	C (basic)
	SQL (basic)
Skills	Machine Learning
	Process Mining
	Scientific Writing
Certificates	"Introduction to Machine Learning for scientists", Prace winter School.
	"HPC intro", "Python for HPC" and "Scientific Python",
	(VSC training sessions), 2018-2019
	"Initiator attest trainer korfbal, BLOSO" (trainer sport), 2013
	"Animator in het jeugdwerk" (animator for youth), 2012

AWARDS, ACKNOWLEDGEMENTS AND AWARDED GRANTS

Awarded FWO grant Junior postdoctoral fellowship

For the project "Robust Multi-Modal Prediction in Business Processes" I have received 3 years funding (starting in October 2024).

Best Paper 2nd International Workshop on Leveraging Machine Learning in Process Mining (ML4PM)

Won best paper together with Seppe vanden Broucke and Jochen De Weerdt for work titled "Can deep neural networks learn process model structure? An assessment framework and analysis"

Winner best PhD team at Datathon 2020

Our team won the prize for best PhD team at the datathon for our application: Clean Air Route Finder, which could be used to find the route between two places in Leuven on which you would breathe in the least particulate matter.

LIST OF PUBLICATIONS

Journal publications

Peeperkorn J., vanden Broucke, S., & De Weerdt, J. Validation Set Sampling Strategies for Predictive Process Monitoring, Information Systems, Volume 121 (2024)

Peeperkorn, J., vanden Broucke, S. & De Weerdt, J. Global Conformance Checking Measures Using Shallow Representation and Deep Learning, Engineering Applications of Artificial Intelligence, Volume 123, Part B (2023)

Peeperkorn, J., vanden Broucke, S. & De Weerdt, J. Can recurrent neural networks learn process model structure?. J Intell Inf Syst (2022). `https://doi.org/10.1007/s10844-022-00765-x`

Conference proceedings

Yu Y., Peeperkorn J., De Smedt J. & De Weerdt J., Multivariate Approaches for Process Model Forecasting, Process Mining Workshops (ML4PM), ICPM 2024

Neubauer T. R. , Peeperkorn J., Peres S. M., De Weerdt J. and Fantinato M., Vector Representation for Business Process: Graph Embedding for Domain Knowledge Integration, 2023 International Conference on Machine Learning and Applications (ICMLA), Jacksonville, FL, USA, 2023

Adams J. N., Peeperkorn J, Brockhoff T., Terrier I., Göhner H., Uysal M. S., vanden Broucke S., De Weerdt J. & van der Aalst W. M. P., Discovering High-Quality Process Models Despite Data Scarcity, ER Forum 2023

Stevens A., Peeperkorn J., De Smedt J. & De Weerdt J., Manifold Learning for Adversarial Robustness in Predictive Process Monitoring, ICPM 2023

Peeperkorn J, Vázquez C.O., Stevens A., De Smedt J., vanden Broucke S. & De Weerdt J. (2023) Outcome-Oriented Predictive Process Monitoring on Positive and Unlabelled Event Logs, ICPM 2022 Workshops

Stevens, A., De Smedt, J., Peeperkorn, J. & De Weerdt J. (2022) Assessing the Robustness in Predictive Process Monitoring through Adversarial Attacks, ICPM 2022

Vandenabeele, J., Vermaut, G., Peeperkorn, J., & De Weerdt, J. (2021). Enhancing Stochastic Petri Net-based Remaining Time Prediction using k-Nearest Neighbors., ATAED (Petri Nets 2022), `https://ceur-ws.org/Vol-3167`

Peeperkorn, J., vanden Broucke, S. & De Weerdt, J. (2022). Can Deep Neural Networks Learn Process Model Structure? An Assessment Framework and Analysis. In: J. Munoz-Gama, X. Lu (Eds.), Process Mining Workshops, (127-139). Presented at the ICPM, Eindhoven. Cham. ISBN: 978-3-030-98581-3.

Stevens, A., De Smedt, J. & Peeperkorn, J. (2022). Quantifying Explainability in Outcome-Oriented Predictive Process Monitoring. In: J. Munoz-Gama, X. Lu (Eds.), Process Mining Workshops, (127-139). Presented at the ICPM, Eindhoven. ISBN: 978-3-030-98580-6.

Peeperkorn, J., vanden Broucke, S. & De Weerdt, J. (2021). Supervised Conformance Checking Using Recurrent Neural Network Classifiers. vol. LNBIP 406, (175-187). Presented at the International Workshop on Leveraging Machine Learning in Process Mining, Padua. Cham, Switerland. ISBN: 978-3-030-72692-8. doi: 10.1007/978-3-030-72693-5_14

Peeperkorn, J., De Weerdt, J. & vanden Broucke, S. (2020). Conformance checking using activity and trace embeddings. In: Business Process Management Forum : BPM Forum 2020, Seville, Spain, September 13–18, 2020, Proceedings, (105-121). Presented at the BPM Forum, Seville, 13 Sep 2020-18 Sep 2020. ISBN: 978-3-030-58637-9. doi: 10.1007/978-3-030-58638-6

Posters

Peeperkorn J., Dupuis R., Lapenta G., Forecasting geomagnetic storms using long short-term memory neural networks, European Space Weather Week (ESWW) 2019, Liege, Belgium

Preprints

Lien Bosmans, Jari Peeperkorn, Alexandre Goossens, Giovanni Lugaresi, Johannes De Smedt & Jochen De Weerdt, "Dynamic and Scalable Data Preparation for Object-Centric Process Mining", https://arxiv.org/abs/2410.00596

Dirk Fahland, Marco Montali, Julian Lebherz, Wil M.P. van der Aalst, Maarten van Asseldonk, Peter Blank, Lien Bosmans, Marcus Brenscheidt, Claudio di Ciccio, Andrea Delgado, Daniel Calegari, Jari Peeperkorn, Eric Verbeek, Lotte Vugs & Moe Thandar Wynn, "Towards a Simple and Extensible Standard for Object-Centric Event Data (OCED) – Core Model, Design Space, and Lessons Learned", https://arxiv.org/abs/2410.14495

In Submission

Jari Peeperkorn & Simon De Vos, "Achieving Group Fairness in Outcome Oriented Predictive Process Monitoring"

Alexander Stevens, Jari Peeperkorn, Johannes De Smedt & Jochen De Weerdt, "Generating Realistic Adversarial Examples for Business Processes using Variational Autoencoders"

Doctoral Booklet

Jari Peeperkorn, "Novel Conformance Checking Methods and Validation Strategies for Deep Learning in Process Mining" (2023)

TEACHING

- 2003/2024, 2024/2025: Teaching the course Business Analytics (6 ECTS) in the Advanced Programme on Artificial Intelligence in Business and Industry (Postgraduate Certificate and Advanced Master), KU Leuven (academic year 2023-2024)

- Supervision of multiple master theses in HIR/HIRB/MinfM as a daily supervisor (19) (2019-2023) and as a promotor (3) (2023-2024) on different topics ranging from process mining to NLP.

- Assistant for the course Business Analysis/Business Analyse (2019-2023) and Introduction to Analytics (2022-2023), mainly in designing/correcting assignments

- Multiple guest sessions