

Jari Peeperkorn

Curriculum Vitae

PERSONAL DETAILS

Nationality Dutch and Belgian
Birth July 14, 1995 (Leuven, Belgium)
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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 physics and astronomy (2015-2019) Student member faculty 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

L^AT_EX, 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

2024: Co-author best paper at the International Workshop on Leveraging Machine Learning in Process Mining (ML4PM)

For the work titled "Multivariate Approaches for Process Model Forecasting" by Yongbo Yu, Jari Peeperkorn, Johannes De Smedt, Jochen De Weerd, 2024, Copenhagen

2024: 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).

2021: Best paper at the International Workshop on Leveraging Machine Learning in Process Mining (ML4PM)

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

Winner best PhD team at KU Leuven 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

Published

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

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

In Submission

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

Yongbo Yu, Jari Peepkorn, Johannes De Smedt & Jochen De Weerd, "A Benchmarking Study on Process Model Forecasting: Univariate vs. Multivariate Approaches"

Jari Peepkorn, Johannes De Smedt & Jochen De Weerd, "Model-driven Stochastic Trace Clustering"

Conference proceedings

Published

Peeperkorn, J., De Vos, S. (2025), Achieving Group Fairness through Independence in Predictive Process Monitoring, Advanced Information Systems Engineering, Lecture Notes in Computer Science, vol 15701, CAiSE 2025.

Neubauer T. R. , Peepkorn J., De Weerd J., Fantinato M., & Peres S. M. (2024), Enhancing Remaining Time Prediction in Business Processes through Graph Embedding, Proceedings of the 58th Hawaii International Conference on System Sciences, HICSS 2025

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

Neubauer T. R. , Peepkorn J., Peres S. M., De Weerd J. and Fantinato M. (2023), 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., Peepkorn J, Brockhoff T., Terrier I., Göhner H., Uysal M. S., vanden Broucke S., De Weerd J. & van der Aalst W. M. P. (2023), Discovering High-Quality Process Models Despite Data Scarcity, ER Forum 2023

Stevens A., Peeperkorn J., De Smedt J. & De Weerd J. (2023), 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 Weerd J. (2023) Outcome-Oriented Predictive Process Monitoring on Positive and Unlabelled Event Logs, ICPM 2022 Workshops

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

Vandenabeele, J., Vermaut, G., Peeperkorn, J., & De Weerd 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 Weerd 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 Weerd 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, Switzerland. ISBN: 978-3-030-72692-8. doi: 10.1007/978-3-030-72693-5_14

Peeperkorn, J., De Weerd 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

In submission

Rafael Oyamada, Jari Peeperkorn, Johannes De Smedt, "Fine-Tuning Large Language Models for Multi-Task Predictive Process Monitoring"

Yannis Bertrand, Martin Kabierski, Jari Peeperkorn, Seppe vanden Broucke, "How much can we improve process mining? A framework to analyse the impact of data quality on process discovery"

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 Weerd J., "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 Peepkorn, 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>

Doctoral Booklet

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

TEACHING

1. Principal teacher of the Business Analytics course (6 ECTS) in the Advanced Program on Artificial Intelligence in Business and Industry (Postgraduate Certificate and Advanced Master), KU Leuven (academic years 2023-2024 & 2024-2025). Teaching different business applications of Machine Learning, BPM, and other relevant analytics. Well evaluated by students.
2. Supervision of multiple master theses in business engineering and information management, on different topics ranging from process mining to NLP; also sometimes including external partners.
 - a) As main promotor (2023-2025)
 - b) As a daily supervisor (2019-2023)
3. Assistant for the courses “Business Analysis/Business Analyse” (2019-2023) and “Introduction to Analytics” (2022-2023), KU Leuven, mainly in designing/correcting assignments.
4. Multiple guest sessions.

REFERENCES

- Jochen De Weerd, professor KU Leuven, jochen.deweerd@kuleuven.be
- Johannes De Smedt, professor KU Leuven, johannes.desmedt@kuleuven.be
- Seppe vanden Broucke, professor UGent, seppe.vandenbroucke@ugent.be