# Anton Yeshchenko

PhD in Process Mining, AI, and Data Visualization with experience in research and industry. Specializes in AI-driven analytics and visual tools for optimizing business processes, detecting process drifts, and analyzing event sequence data. Passionate about leveraging AI and automation to enhance decision-making and operational efficiency. Recipient of multiple awards and author of numerous publications in top-tier journals and conferences.

## PERSONAL DATA

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## EDUCATION

**PhD. Doctor of Philosophy** — 2017-2022
*at Vienna University of Economics and Business* — *With honorable mention.*

- Dissertation: Machine Learning & Data Visualization for Process Mining and BPM.
- Honors: Graduated with distinction; recipient of WU Vienna's annual research performance prize.
- Expertise: Process mining, AI-driven analytics, and data visualization.

**MSc. Software Engineering** — 2015-2017
*at University of Tartu, Tallinn University of Technology*

- Focus: Data Mining, Agile Methods, Functional Programming, Software Economics, Business Process Management, Public Speaking
- Project: Developed a predictive process monitoring tool integrating external data.

**MSc. Software Engineering** — 2014-2016
*at Kyiv National Taras Shevchenko University*

- Specialization: AI, Neural Networks, Cluster Computing.
- Project: Maximum Coalition in Cooperative Game – Designed and implemented new heuristic approaches for finding the maximal clique.

**BSc. Applied Mathematics** — 2010-2014
*at Kyiv National Taras Shevchenko University*

- Key Areas: Operations Research, Programming, Numerical Methods, Databases, Machine learning, Probability theory.

## PROFESSIONAL EXPERIENCE

**Postdoctoral Researcher** — 2025 - present
*at University of Vienna, Vienna, Austria*

- Designing advanced visual analytics tools for object-oriented process mining applications.

**Postdoctoral Researcher** — 2023
*at Vienna University of Economics and Business, Vienna, Austria*

- Developed advanced visual analytics tools for fine-grained process drift detection, enhancing the accuracy of business process monitoring systems.

### PhD Student, Teaching and Research Associate 2017-2022
*at Vienna University of Economics and Business, Vienna, Austria*

- Pioneered the Visual Drift Detection (VDD) system, a novel approach for detecting and visualizing process changes over time, leading to improved process management strategies.
- Published extensively in top-tier conferences and journals, including a comprehensive survey on event sequence analysis and visualization, contributing to the academic community's understanding of process mining.
- Collaborated internationally with research institutions in EU, South Korea, Australia, and Brazil, fostering cross-cultural academic partnerships and broadening research perspectives.

### Process Mining Research intern 2016-2017
*FBK, Trento, Italy*

- Developed predictive monitoring methods for business processes, utilizing machine learning techniques to anticipate process deviations and enhance operational efficiency.

### NLP Engineer 2016
*University of Tartu, Tartu, Estonia*

- Engineered natural language processing solutions to interpret and analyze unstructured data.

### Software Engineer 2013-2014
*Global freelance UA, Kyiv, Ukraine*

- Designed and implemented software solutions for diverse clients, demonstrating adaptability and proficiency in various programming environments.

### Java developer intern 2013
*EPAM, Kyiv, Ukraine*

- Assisted in developing Java-based applications, gaining foundational experience in software development and team collaboration.

## SKILLS AND TOOLS

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| *Programming* | Python, R |
| *Data Visualization Tools* | D3.js, Matplotlib |
| *Process mining and BPM tools* | Celonis, ProM, Disco, Signavio |
| *Writing tools* | Office, Tex |
| *Databases* | SQL |
| *3d Modeling* | Autocad, Fusion 360 |
| *Data Analysis and Visualization* | Event sequence analysis, process mining, process drift detection, time series forecasting |
| *Research and Publication* | Survey design, academic writing, interdisciplinary collaboration |
| *Machine Learning and AI* | Deep learning techniques for business process management |

## LANGUAGES

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| *English* | Fluent |
| *Ukrainian* | Mother tongue |
| *German* | Intermediate |

## HONOURS AND AWARDS

*Best Paper Award at 40th International Conference on Conceptual Modeling (ER 2021) for the paper* 2021
*"Process Model Forecasting Using Time Series Analysis of Event Sequence Data"*
*Awarded with the annual research performance prize from the Vienna University of Economics and* 2021
*Business (WU Vienna)*
*Best Paper Award at 13th Working Conference on the Practice of Enterprise Modelling (PoEM 2020)* 2020
*for the paper "Process Mining Supported Process Redesign: Matching Problems with Solutions."*

## INVITED TALKS

*Process Drift and Detection with Visual Analytics* at Hasso-Plattner-Institut, Potsdam, Germany 16/09/2019
*External contextual information for predictive business process monitoring: How do the online news* 16/10/2018
*impact business processes?* at QUT, Brisbane, Australia
*Intro to Predictive monitoring* at UNIRIO, Rio de Janeiro, Brazil 18/04/2018

## PRESENTATIONS AT CONFERENCES AND WORKSHOPS

*A survey of approaches for event sequence analysis and visualization* at Conference on Business 10/09/2024
Process Management (BPM), Krakow, Poland
*Process Model Forecasting Using Time Series Analysis of Event Sequence Data* at 40th International 19/10/2021
Conference on Conceptual Modelling, St. John's, NL Canada
*VDD: A Visual Drift Detection System for Process Mining* at ICPM 2020 Demo track – International 06/10/2020
Conference on Process Mining, Padua, Italy
*Visualizing Business Process Evolution* at BPMDS 2020 – International Conference on Business 08/06/2020
Process Modeling, Development and Support, Grenoble, France
*Comprehensive Process Drift Detection with Visual Analytics* at ER 2019 – 38th International 06/11/2019
Conference on Conceptual Modeling, Salvador, Brazil
*Comprehensive Process Drift Detection with Visual Analytics. VDD Technique* at ER 2019 – 38th 05/11/2019
International Conference on Conceptual Modeling, Salvador, Brazil
*Speech Acts Featuring Decisions in Knowledge-Intensive Processes* at On the Move to Meaningful 26/10/2018
Internet Systems. OTM 2018 Conferences, Valletta, Malta
*Context-aware predictive process monitoring: The impact of news sentiment* at On the Move to 26/10/2018
Meaningful Internet Systems. OTM 2018 Conferences, Valletta, Malta
*An Eye into the Future: Leveraging A-Priori Knowledge in Predictive Business Process Monitoring* 12/09/2017
at Conference on Business Process Management (BPM), Barcelona, Spain

## TEACHING EXPERIENCE

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| *Foundations of Information Systems* at WU Vienna | *Lecturer* | (BSc., 2*2 ECTS) | ss2025 |
| *Foundations of Information Systems* at WU Vienna | *Lecturer* | (BSc., 2 ECTS) | ws2024 |
| *Process Analytics* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ws2021 |
| *Computer Programming Lab: Algorithms* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ws2021 |
| *Computer Programming Lab: Algorithms* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ss2021 |
| *Data science projects* at WU Executive Academy | *Group supervisor* | (MBA) | 2021 |
| *Computer Programming Lab: Algorithms* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ws2020 |
| *Computer Programming Lab: Algorithms* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ss2020 |
| *Data Science and Business Process Management* at WU Executive Academy | *Lecturer* | (MBA, lecture) | 07/10/2020 |
| *Principles of Programming* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ws2019 |
| *Data science for business: process mining in practice* at University of Stellenbosch Business School | *Lecturer* | (MBA, 6 ECTS) | 2019 |
| *Principles of Programming* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ss2019 |
| *Lisbon Machine Learning school (LxMLS)* | *Mentor* | | 2018 |
| *Principles of Programming* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ws2018 |
| *Principles of Programming* at WU Vienna | *Lecturer* | (BSc., 4 ECTS) | ss2018 |

## SUPERVISION

Supervised 6 BSc and 4 MSc theses at WU Vienna, mentoring students in machine learning and BPM.

## ADDITIONAL

A Side Of Data podcast host. Podcast about data science, process mining and data visualizations.
Translator of Foundations of Business Process Management book into Ukrainian.
AEGEE – European Students' Forum: Represented AEGEE Kyiv at international events, engaging in intercultural exchange, networking, and youth policy discussions

## PUBLICATIONS

[1] Johannes De Smedt, Anton Yeshchenko, Artem Polyvyanyy, Jochen De Weerdt, and Jan Mendling. Process model forecasting using time series analysis of event sequence data. In *International Conference on Conceptual Modeling*, pages 47–61. Springer International Publishing Cham, 2021.

[2] Johannes De Smedt, Anton Yeshchenko, Artem Polyvyanyy, Jochen De Weerdt, and Jan Mendling. Process model forecasting and change exploration using time series analysis of event sequence data. *Data Knowledge Engineering*, 145:102145, 2023.

[3] Chiara Di Francescomarino, Chiara Ghidini, Fabrizio Maria Maggi, Giulio Petrucci, and Anton Yeshchenko. An eye into the future: Leveraging a-priori knowledge in predictive business process monitoring. In *BPM*, volume 10445 of *Lecture Notes in Computer Science*, pages 252–268. Springer, 2017.

[4] Steven Gross, Anton Yeshchenko, Djordje Djurica, and Jan Mendling. Process mining supported process redesign: Matching problems with solutions. In *PoEM (Forum)*, volume 2793 of *CEUR Workshop Proceedings*, pages 24–33. CEUR-WS.org, 2020.

[5] Johannes De Smedt, Anton Yeshchenko, Artem Polyvyanyy, Jochen De Weerdt, and Jan Mendling. Process model forecasting using time series analysis of event sequence data. In *ER*, volume 13011 of *Lecture Notes in Computer Science*, pages 47–61. Springer, 2021.

[6] Philipp Waibel, Anton Yeshchenko, Stefan Schulte, and Jan Mendling. Optimized container-based process execution in the cloud. In *OTM Conferences (2)*, volume 11230 of *Lecture Notes in Computer Science*, pages 3–21. Springer, 2018.

[7] A. Yeshchenko, C. Di Ciccio, J. Mendling, and A. Polyvyanyy. Visual drift detection for sequence data analysis of business processes. *IEEE Transactions on Visualization and Computer Graphics*, 2021.

[8] Anton Yeshchenko, Dina Bayomie, Steven Gross, and Jan Mendling. Visualizing business process evolution. In *BPMDS/EMMSAD@CAiSE*, volume 387 of *Lecture Notes in Business Information Processing*, pages 185–192. Springer, 2020.

[9] Anton Yeshchenko, Claudio Di Ciccio, Jan Mendling, and Artem Polyvyanyy. Comprehensive process drift analysis with the visual drift detection tool. In *ER Forum/Posters/Demos*, volume 2469 of *CEUR Workshop Proceedings*, pages 108–112. CEUR-WS.org, 2019.

[10] Anton Yeshchenko, Claudio Di Ciccio, Jan Mendling, and Artem Polyvyanyy. Comprehensive process drift detection with visual analytics. In *ER*, volume 11788 of *Lecture Notes in Computer Science*, pages 119–135. Springer, 2019.

[11] Anton Yeshchenko, Fernando Durier, Kate Revoredo, Jan Mendling, and Flávia Maria Santoro. Context-aware predictive process monitoring: The impact of news sentiment. In *OTM Conferences (1)*, volume 11229 of *Lecture Notes in Computer Science*, pages 586–603. Springer, 2018.

[12] Anton Yeshchenko and Jan Mendling. A survey of approaches for event sequence analysis and visualization. *Information Systems*, 120:102283, 2024.

[13] Anton Yeshchenko, Jan Mendling, Claudio Di Ciccio, and Artem Polyvyanyy. VDD: A visual drift detection system for process mining. In *ICPM Doctoral Consortium / Tools*, volume 2703 of *CEUR Workshop Proceedings*, pages 31–34. CEUR-WS.org, 2020.