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# Group for Engineering of Intelligent Systems and Technologies



## Welcome to GEIST Research Group Webpage!

GEIST is led and coordinated by [Dr. Grzegorz J. Nalepa](#) with a scientific supervision of [Prof. Antoni Ligęza](#).

We work in the Department of Applied Computer Science at [AGH University of Science and Technology](#) in Kraków, Poland.

The group is active in the areas of intelligent systems, knowledge and engineering, Business Intelligence and Ambient Intelligence (see the group's [research projects](#)).



GEIST has been involved in number of [projects](#). For more information see [recent activity](#), [publications](#) and [software](#).

**26 June 2025 - [AIRA seminar] Artur Miroszewski, PhD @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Artur Miroszewski will give a talk entitled: **Exploring Quantum Machine Learning through Earth Observation Case Studies**. The meeting will start on **Thursday (26.06.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule). Feel welcome to [contact us](#).

## GEIST news



- **05 June 2025 - [AIRA seminar] Elżbieta Sroka, PhD @ Łukasiewicz Research Network - EMAG Institute of Innovative Technologies** We kindly invite you to the next seminar in the [AIRA series](#). Elżbieta Sroka will give a talk entitled: **Interaction Design in Consideration of User Research and UX Specialist Perspectives: Artificial intelligence in UX Design, users experience in digital library and the needs of digital humanities researchers, reception of signed avatars by Deaf users**. The meeting will start on **Thursday (05.06.2025) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **29 May 2025 - [AIRA seminar] Bogdan Gulowaty, PhD @ Wrocław University of Science and Technology** We kindly invite you to the next seminar in the [AIRA series](#). Bogdan Gulowaty will give a talk entitled: **Building transparent classification models**. The meeting will start on **Thursday (29.05.2025) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **22 May 2025 - [AIRA seminar] Jacek Karolczak, PhD Candidate @ Wrocław University of Science and Technology**

**Poznań University of Technology** We kindly invite you to the next seminar in the [AIRA series](#). Jacek Karolczak will give a talk entitled: **Explainable AI: Moving from numbers to meaningful insights via prototype-based explanations**. The meeting will start on **Thursday (22.05.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **15 May 2025 - [AIRA seminar] Anastasiya Pechko, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Anastasiya Pechko will give a talk entitled: **Adaptive Modular Housing Design for Crisis Situations**. The meeting will start on **Thursday (15.05.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **08 May 2025 - [AIRA seminar] Gianluca Guglielmo, PhD @ Tilburg University** We kindly invite you to the next seminar in the [AIRA series](#). Gianluca Guglielmo will give a talk entitled: **From Video Games to Real-life "Games": The Emergence of Real-life Expertise in (Serious) Video Games**. The meeting will start on **Thursday (08.05.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **24 April 2025 - [AIRA seminar] Natalia Wojak-Strzelecka, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Natalia Wojak-Strzelecka will give a talk entitled: **Enhancing concept drift detection, explanation and adaptation to changes in industrial data streams**. The meeting will start on **Thursday (24.04.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **03 April 2025 - [AIRA seminar] Dmytro Polishchuk, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Dmytro Polishchuk will give a talk entitled: **Automated**



## GitHub Repository Quality Evaluation: A Metrics-Based Approach.

The meeting will start on **Thursday (03.04.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



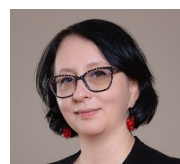
- **27 March 2025 - [AIRA seminar] Jakub Jakubowski, PhD Candidate @ AGH University** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Jakub Jakubowski will give a talk entitled: **Explainable Predictive Maintenance in Steel Rolling**. The meeting will start on **Thursday (27.03.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **13 March 2025 - [AIRA seminar] Maciej Szelązek, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Maciej Szelązek will give a talk entitled: **Semantic Data Mining methods for decision support in smart manufacturing**. The meeting will start on **Thursday (13.03.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **06 March 2025 - [AIRA seminar] Renata Włoch, Professor @ University of Warsaw** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Renata Włoch will give a talk entitled: **Does fear of automation motivate workers to reskill?** The meeting will start on **Thursday (06.03.2025) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).





- **30 January 2025 - [AIRA seminar] Mateusz Dobija, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Mateusz Dobija will give a talk entitled: **Accelerating training of Physics Informed Neural Network for 1D PDEs with Hierarchical Matrices** The meeting will start on **Thursday (30.01.2025) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **16 January 2025 - [AIRA seminar] Antonio Guillén-Teruel, PhD Candidate @ University of Murcia** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Antonio Guillén-Teruel will give a talk entitled: **Exploring SHAP Values in Imbalanced: Insights on Bias and Concept Drift** The meeting will start on **Thursday (16.01.2025) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **19 December 2024 - [AIRA seminar] Betül Bayrak, PhD Candidate @ Norwegian University of Science and Technology** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Betül Bayrak will give a talk entitled: **Post-hoc XAI Methods: Counterfactuals and XCBR Applications** The meeting will start on **Thursday (19.12.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **12 December 2024 - [AIRA seminar] Jan Ignatowicz, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Jan Ignatowicz will give a talk entitled: **Knowledge Graphs for Digitized Manuscripts in Cultural Heritage Applications** The meeting will start on **Thursday (12.12.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **05 December 2024 - [AIRA seminar] Ulvi Movsum-zada, PhD Candidate @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Ulvi Movsum-zada will give a talk entitled: **VisTabNet: Adapting Vision Transformers for Tabular Data** The meeting will start on **Thursday (05.12.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **28 November 2024 - [AIRA seminar] Michał Wierzchoń, Professor @ Jagiellonian University** We kindly invite you to the next seminar in the [AIRA series](#). Michał Wierzchoń will give a talk entitled: **Centre for Brain Research - aims, goals, case projects and available datasets** The meeting will start on **Thursday (28.11.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **21 November 2024 - [AIRA seminar] Agnieszka Ławrynowicz, Associate Professor @ Poznan University of Technology** We kindly invite you to the next seminar in the [AIRA series](#). Agnieszka Ławrynowicz will give a talk entitled: **How to Build Trustworthy Knowledge Graphs?** The meeting will start on **Thursday (21.11.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).





- **14 November 2024 - [AIRA seminar] Dorota Głowacka, Professor @ University of Helsinki** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Dorota Głowacka will give a talk entitled: **User-centric Design and Evaluation of Exploratory Search and Recommender Systems** The meeting will start on **Thursday (14.11.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **07 November 2024 - [AIRA seminar] M.Sc. Eng. Weronika Hryniewska-Guzik** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). M.Sc. Eng. Weronika Hryniewska-Guzik will give a talk entitled: **NormEnsembleXAI: Unveiling the Strengths and Weaknesses of XAI Ensemble Techniques** The meeting will start on **Thursday (7.11.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **24 October 2024 - [AIRA seminar] dr hab. inż. Lucjan Janowski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Dr hab. inż. Lucjan Janowski will give a talk entitled: **Quality of Experience - Quality for Telecommunication** The meeting will start on **Thursday (24.10.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).





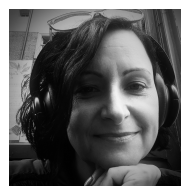
- **14 October 2024 - [AIRA seminar] Luiz do Valle Miranda** We kindly invite you to the next seminar in the [AIRA series](#). Luiz do Valle Miranda, Jagiellonian University will give a talk entitled: **Critical Early-Stage Decisions in Linked Data Projects for Cultural Heritage: Challenges, Choices, and Guidelines** The meeting will start on **Thursday (17.10.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **24 June 2024 - [AIRA seminar] José Palma, Juan Botía, Antonio Guillén-Teruel** We kindly invite you to the next seminar in the [AIRA series](#). José Palma, Juan Botía, Antonio Guillén-Teruel, University of Murcia will give two talks: **Context-Aware learning models: CALM-Project and Concept Drift in Imbalanced Problems** The meeting will start on **Thursday (27.06.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **03 June 2024 - [AIRA seminar] Žaneta Kubic** We kindly invite you to the next seminar in the [AIRA series](#). Žaneta Kubic, Jagiellonian University will give a talk entitled **European Cultural Heritage in Virtual Worlds - why and how : introduction to the IMPULSE project** The meeting will start on **Thursday (06.06.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **10 May 2024 - [AIRA seminar] Mateusz Bułat** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Mateusz Bułat, PhD Candidate @ Jagiellonian University will give a talk entitled **Image analysis for specialised therapy support** The meeting will start on **Thursday (16.05.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **07 May 2024 - [AIRA seminar] Jason J. Jung** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Jason J. Jung, Full Professor @ Chung-Ang University, Korea will give a talk entitled **Deep Learning for Anomaly Detection in Multivariate Time Series Approaches, Applications, and Challenges** The meeting will start on **Thursday (09.05.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **02 April 2024 - [AIRA seminar] Bartłomiej Małkus** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Bartłomiej Małkus, PhD Candidate @ Jagiellonian University will give a talk entitled **Interpretable Time Series Classification With Prototypical Parts** The meeting will start on **Thursday (25.04.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **02 April 2024 - [AIRA seminar] Barbara Strug** We kindly invite you to the next seminar in the [AIRA series](https://geist.re/). Barbara Strug, Professor @ Jagiellonian University will give a talk entitled **Evolutionary methods in automatic floor layout generation** The meeting will start on **Thursday (04.04.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **25 March 2024 - [AIRA seminar] Jarosław Wąs** We kindly invite you to the next seminar in the [AIRA series](https://geist.re/). Jarosław Wąs, Full Professor @ AGH University of Krakow will give a talk entitled **Complex Collective Systems**. The meeting will start on **Thursday (28.03.2024) at 15:15!**

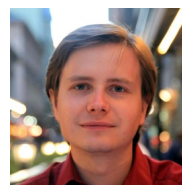
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **19 March 2024 - [AIRA seminar] Maciej Szelążek** We kindly invite you to the next seminar in the [AIRA series](https://geist.re/). Maciej Szelążek, PhD Candidate @ AGH University of Krakow will give a talk entitled **Using ML and XAI for decision support in Business Intelligence analysis**. The meeting will start on **Thursday (21.03.2024) at 15:15!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).





- **12 March 2024 - [AIRA seminar] Mateusz Ślażyński** We kindly invite you to the next seminar in the [AIRA series](#). Mateusz Ślażyński, Research Assistant @ AGH University of Krakow will give a talk entitled **Formal Representation and Synthesis of Local Search Neighborhoods** The meeting will start on **Thursday (14.03.2024) at 15:15!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



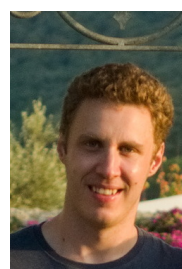
- **19 January 2024 - [AIRA seminar] Rita P. Ribeiro** We kindly invite you to the next seminar in the [AIRA series](#). Rita P. Ribeiro, Assistant Professor @ University of Porto will give a talk entitled **Online Anomaly Explanations - case study of Metro do Porto** The meeting will start on **Thursday (25.01.2024) at 15:50!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **16 January 2024 - [AIRA seminar] Jakub Gomułka** We kindly invite you to the next seminar in the [AIRA series](#). Jakub Gomułka, Professor @ Faculty of Humanities of AGH University of Krakow will give a talk entitled **The Wittgenstein Ontology Project** The meeting will start on **Thursday (18.01.2024) at 15:50!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **02 January 2024 - [AIRA seminar] Arkadiusz Tomczyk** We kindly invite you to the next seminar in the [AIRA series](#). Arkadiusz Tomczyk, Assistant Professor @ Lodz University of Technology will give a talk entitled **Interpretable components and graph neural networks** The meeting will start on **Thursday (11.01.2024) at 15:50!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **18 December 2023 - [AIRA seminar] Tomasz Stebel** We kindly invite you to the next seminar in the [AIRA series](#). Tomasz Stebel, Assistant Professor @ Jagiellonian University will give a talk entitled **Sampling states in statistical physics with neural networks** The meeting will start on **Thursday (21.12.2023) at 15:50!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **29 November 2023 - [AIRA seminar] Jeremi Ochab** We kindly invite you to the next seminar in the [AIRA series](#). Jeremi Ochab, Assistant Professor @ Jagiellonian University will give a talk entitled **Fractal and multifractal organisation of neuroimaging signals in cognitive tasks and in disease** The meeting will start on **Thursday (07.12.2023) at 15:50!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **27 November 2023 - [AIRA seminar] Andrzej Siódmok** We kindly invite you to the next seminar in the [AIRA series](#). Andrzej Siódmok, Professor @ Jagiellonian University will give a talk entitled **Towards a deep learning model for hadronization - an example of the application of the ML generative models in high-energy physics.** The meeting will start on **Thursday (30.11.2023) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **12 November 2023 - [AIRA seminar] Joanna Jaworek-Korjakowska**  
We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Joanna Jaworek-Korjakowska, Professor @ AGH UST will give a talk entitled **The Impact of Artifacts on the Effectiveness of Deep Learning**. The meeting will start on **Thursday (16.11.2023) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **31 October 2023 - [AIRA seminar] Jan Argasiński** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Jan K. Argasiński, PhD - Institute of Applied Computer Science, Jagiellonian University in Krakow will give a talk entitled **Neuroscientific Inspirations in AI: Spiking Neural Networks**. The meeting will start on **Thursday (09.11.2023) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **20 October 2023 - [AIRA seminar] Jakub Jakubowski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Jakub Jakubowski, PhD Candidate @ AGH UST will give a talk entitled **Synthetic Data Generator for Predictive Maintenance in Steel Manufacturing**. The meeting will start on **Thursday (26.10.2023) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **13 October 2023 - [AIRA seminar] Raquel Espinosa** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Raquel Espinosa, University of Murcia will give a talk entitled **Multi-objective evolutionary feature selection with deep learning applied to air quality spatio-temporal forecasting**. The meeting will start on **Thursday (19.10.2023) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **09 October 2023 - [AIRA seminar] Przemysław Witaszczyk** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Przemysław Witaszczyk,



assistant professor @ Jagiellonian University will give a talk entitled **Reflections after Digital Dragons 2023**. The meeting will start on **Thursday (12.10.2023) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).

- **30 July 2023 - Summary of the AfCAI 2022 workshop** (along with all other IWINAC 2022 sessions) made by [Krzysztof Kutt](#) and [Grzegorz J. Nalepa](#) is now published in Information Fusion! ([10.1016/j.inffus.2023.101945](https://doi.org/10.1016/j.inffus.2023.101945); IF 18.6)



- **20 June 2023 - [AIRA tutorial] Sepideh Pashami** We kindly invite you to the next seminar in the [AIRA series](#). Sepideh Pashami, Senior researcher @ RISE research institutes of Sweden will give a talk entitled **Domain Adaptation for Predictive Maintenance**. The meeting will start on **Thursday (29.06.2023) at 15:30 in hybrid mode!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **19 June 2023 - [AIRA tutorial] Sepideh Pashami** We kindly invite you to the tutorial on causal inference, which will be part of the the [AIRA series](#). Sepideh Pashami, Senior researcher @ RISE research institutes of Sweden will give a talk entitled **Causal Inference and its Connection to Machine Learning**. The meeting will start on **Monday (26.06.2023) at 14:00 in hybrid mode!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **19 June 2023 - [AIRA seminar] Michał Kuk** We kindly invite you the next seminar in the [AIRA series](#). Michał Kuk, PhD Candidate @ AGH University of Science and Technology will give a talk entitled **Time-Series Complexity into Understandable Prototypes: A Generic Approach to Machine Learning Explanations in Industrial Processes**. The meeting will start on **Thursday (22.06.2023) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **22 May 2023 - [AIRA seminar] Przemysław Stanisław Stanisz** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Artur Miroszewski, Przemysław Stanisz, PhD, ArcelorMittal Poland will give a talk entitled **Modeling of advanced nuclear systems** will start on **Thursday (25.05.2023) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **12 May 2023 - [AIRA seminar] Artur Miroszewski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Artur Miroszewski, Postdoctoral researcher @ Jagiellonian University will give a talk entitled **Use of quantum computation in satellite data analysis** will start on **Thursday (18.05.2023) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **08 May 2023 - [AIRA seminar] Joao Gama** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Joao Gama, Full Professor @ School of Economics, University of Porto will give a talk entitled **Current Trends in Learning from Data Streams** will start on **Thursday (11.05.2023) at 15:30 in hybrid mode!!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **17 Apr 2023 - [AIRA seminar] Mateusz Bułat** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Mateusz Bułat, PhD Candidate @ Jagiellonian University will give a talk entitled **Syntactic Pattern Recognition in Medical Applications** will start on **Thursday (20.04.2023) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **07 Apr 2023 - [AIRA seminar] Edyta Kuk** We kindly invite you to the next seminar in the [AIRA series](#). Edyta Kuk, PhD Candidate @ AGH UST will give a talk entitled **Machine Learning-based industrial process control with explainable decision support** will start on **Thursday (13.04.2023) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **30 Mar 2023 - Loki - the semantic wiki for collaborative knowledge engineering** The last ten years of development of our [semantic wiki Loki](#) has been just summarized in a paper in Expert Systems with Applications ([10.1016/j.eswa.2023.119968](#); **IF 8.665**). Take a look at the paper and do not hesitate to use our wiki in your projects!



- **25 Mar 2023 - [AIRA seminar] Marcin Grzegorzec** We kindly invite you to the next seminar in the [AIRA series](#). Marcin Grzegorzec, full professor of medical informatics @ University of Lübeck will give a talk entitled **Profiling Humans Using Pattern Recognition Algorithms** will start on **Thursday (30.03.2023) at 15:30!**

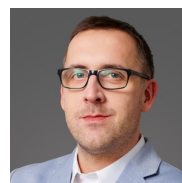
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **20 Mar 2023 - [AIRA seminar] Amira Soliman, Awais Ashfaq, Atiye**



**Sadat Hashemi** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Amira Soliman, assistant professor @ Halmstad University, Awais Ashfaq, research scientist @ Region Halland and post-doc @ Halmstad University Atiye Sadat Hashemi, postdoctoral researcher @ Halmstad University will give a talk entitled **Using AI in healthcare - from outcome prediction through targeted interventions to EHR anonymisation** will start on **Thursday (23.03.2023) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **13 Mar 2023 - [AIRA seminar] Bartosz Zieliński** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Bartosz Zieliński, Associate Professor @ Jagiellonian University will give a talk entitled **Interpretable Deep Learning with Prototypical Parts** will start on **Thursday (16.03.2023) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **20 Feb 2023 - [AIRA seminar] Antonio Martinez-Sanchez**, We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Antonio Martinez-Sanchez, Tenure-track Professor @ University of Murcia, Spain will give a talk entitled **Computational methods for Cryo-Electron Tomography: current challenges** will start on **Thursday (02.03.2023) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



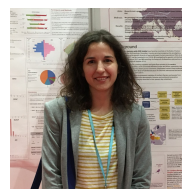
- **19 Jan 2023 - [AIRA seminar] Stella Heras** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Stella Heras, Assistant Professor @ Universitat Politècnica de València (UPV) Spain will give a talk entitled **Automatic Analysis of Argumentative Discourse and**

**Argumentation-based Human Persuasion** will start on **Thursday (26.01.2023) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **16 Jan 2023 - [AIRA seminar] Bartosz Soból** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Bartosz Soból, PhD Candidate @ Jagiellonian University will give a talk entitled **Hypernetwork approach to few-shot learning** will start on **Thursday (19.01.2023) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **04 Jan 2023 - [AIRA seminar] Candela Hernández** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Candela Hernández, Assistant Professor @ Complutense University will give a talk entitled **Machine learning applications in Biological Anthropology** will start on **Thursday (12.01.2023) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **12 Dec 2022 - [AIRA seminar] Przemysław Spurek** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Przemysław Spurek, Assistant Professor @ Jagiellonian University will give a talk entitled **Hypernetwork approach to few-shot learning** will start on **Thursday (15.12.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **05 Dec 2022 - [AIRA seminar] Roman Sosnowski, Piotr Tylus, Jadwiga Kita-Huber, Remigiusz Sapa, Grzegorz J. Nalepa, Krzysztof Kutt** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Roman Sosnowski, Piotr Tylus, Jadwiga Kita-Huber, Remigiusz Sapa, Grzegorz J. Nalepa, and Krzysztof Kutt will give a talk entitled **Digitalization of library handwriting resources and opportunities for Artificial Intelligence. The case of Autographa Sammlung in the Jagiellonian Library** will start on **Thursday (08.12.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



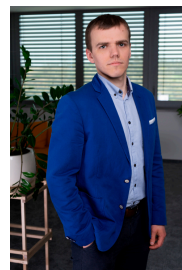
- **25 Nov 2022 - [AIRA seminar] Marcin Tutajewski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Marcin Tutajewski, PhD Candidate @ Jagiellonian University will give a talk entitled **Detection of multiple sclerosis from EEG signals using machine learning methods** will start on **Thursday (01.12.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **18 Nov 2022 - [AIRA seminar] Bartłomiej Małkus** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Bartłomiej Małkus, PhD Candidate @ Jagiellonian University will give a talk entitled **Physics guided neural networks with application to financial modeling** will start on **Thursday (24.11.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **10 Nov 2022 - [AIRA seminar] dr Jarosław Duda** We kindly invite you to the next seminar in the [AIRA series](#). Jarosław Duda, Assistant Professor @ Jagiellonian University will give a talk entitled **Hierarchical correlation reconstruction - between statistics and machine learning** will start on **Thursday (17.11.2022) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **10 Nov 2022 - [AIRA seminar] Paweł Matyszok** We kindly invite you to the next seminar in the [AIRA series](#). Paweł Matyszok, PhD Candidate @ Silesian University of Technology will give a talk entitled **Action Rules induction by Sequential Covering** will start on **Thursday (10.11.2022) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **21 Oct 2022 - [AIRA seminar] Jerzy Stefanowski** We kindly invite you to the next seminar in the [AIRA series](#). prof. dr hab. inż. Jerzy Stefanowski, Poznan University of Technology will give a talk entitled **Learning classifiers from concept drifting and imbalanced data streams** will start on **Thursday (27.10.2022) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **18 Oct 2022 - 150th anniversary of the PAU.** A three-day international scientific conference to celebrate the 150th anniversary of the [Polish Academy of Arts and Sciences \(PAU\)](#) begins today. Of [all the intriguing sessions](#), we especially invite you to the “Real and Virtual Reality, Artificial Intelligence” taking place on Thursday, where [Grzegorz J. Nalepa](#) will give a talk entitled **“Can Natural Intelligence Understand Artificial Intelligence?”**.



- **17 Oct 2022 - [AIRA seminar] Maciej Mozolewski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Maciej Mozolewski, PhD Candidate @ Jagiellonian University will give a talk entitled **Artificial intelligence for support business processes** will start on **Thursday (20.10.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).

- **20 September 2022 - Next paper published by Nature!** Our next paper was published by Nature. Now, it is a report on perception of time in virtual reality published in Nature Scientific Reports ([10.1038/s41598-022-18520-1](https://doi.org/10.1038/s41598-022-18520-1); **IF 4.996**). Take a look at the paper and do not hesitate to contact us if you like it!
- **07 June 2022 - GEIST in Wrocław!** Grzegorz J. Nalepa, Szymon Bobek and Krzysztof Kutt will highlight our key projects and results at the “[Collective Intelligence in Information Systems](#)” seminar in Wrocław, PL. The talk, entitled **Perspectives on Applications of Intelligent Systems in Humanized AI. Recent projects of the GEIST team**, will begin at 09:00 Friday (10.06.2022) and you are invited!
- **07 June 2022 - BIRAFFE2 Data Descriptor in Sci Data!** Data Descriptor for our [BIRAFFE2](#) dataset was published in Nature Scientific Data ([10.1038/s41597-022-01402-6](https://doi.org/10.1038/s41597-022-01402-6); **IF 6.444**). Take a look at the paper and do not hesitate to use our dataset in your research!

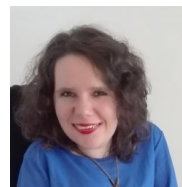


- **23 May 2022 - [AIRA seminar] dr hab. inż. Marcin Hernes, & dr inż. Krzysztof Lutosławski & Agata Kozina** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). dr hab. inż. Marcin Hernes, prof. UEW & dr inż. Krzysztof Lutosławski assistant professor @ UEW & Agata Kozina, Ph.D. candidate @ UEW will give a talk entitled **Artificial intelligence for support business processes** will start on **Thursday (26.05.2022) at 15:30!**  
See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).





- **13 May 2022 - [AIRA seminar] dr hab. Mateusz Hohol** We kindly invite you to the next seminar in the [AIRA series](#). dr hab. Mateusz Hohol, prof. @ Jagiellonian University will give a talk entitled **Investigating and facilitating human geometric cognition through VR/AR technologies** will start on **Thursday (19.05.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **30 April 2022 - [AIRA seminar] Magdalena Wiercioch** We kindly invite you to the next seminar in the [AIRA series](#). Magdalena Wiercioch, PhD Candidate @ UJ will give a talk entitled **Machine Learning in Drug Discovery: Applications and Techniques** will start on **Thursday (05.05.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **11 April 2022 - [AIRA seminar] Maciej Szelązek** We kindly invite you to the next seminar in the [AIRA series](#). Maciej Szelązek, PhD Candidate @ AGH UST will give a talk entitled **Semantic Data Mining Based Decision Support for Quality Assessment in Steel Industry** will start on **Thursday (14.04.2022) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **04 April 2022 - [AIRA seminar] Przemysław Kazienko & Jan Kocoń** We kindly invite you to the next seminar in the [AIRA series](#). Przemysław Kazienko, Full Professor @ Wrocław University of Science and Technology and Jan Kocoń, Assistant Professor @ Wrocław University of Science and Technology will give a talk entitled **Personalized NLP** will start on

**Thursday (07.04.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **25 March 2022 - [AIRA seminar] Bartłomiej Nawara** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Bartłomiej Nawara, PhD Candidate @ Jagiellonian University will give a talk entitled **On open problems of theory of knowledge, based on Luciano Floridi's theory of semantic information** will start on **Thursday (31.03.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **18 March 2022 - [AIRA seminar] dr Michał Araszkiewicz** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Dr Michał Araszkiewicz, Assistant Professor @ Jagiellonian University will give a talk entitled **Artificial Intelligence and (Human Rights) Law** will start on **Thursday (24.03.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **11 March 2022 - [AIRA seminar] Radosław Pałosz** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Radosław Pałosz, PhD Candidate @ UJ will give a talk entitled **Explaining the Artificial Intelligence Act** will start on **Thursday (17.03.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **10 March 2022 - [AIRA seminar] Maciej Mozolewski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Maciej Mozolewski, PhD Candidate @ UJ will give a talk entitled **Demonstration of InXAI framework on ensemble classifier ML model** will start on **Thursday (10.03.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **25 February 2022 - [AIRA seminar] Michał Kuk** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Michał Kuk, PhD Candidate @ AGH UST will give a talk entitled **Enhancing cluster analysis with explainable AI and multidimensional cluster prototypes** will start on **Thursday (03.03.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



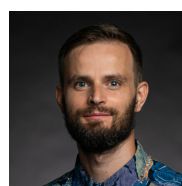
- **27 January 2022 - [AIRA seminar] Victor Rodriguez-Fernandez** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Victor Rodriguez-Fernandez, assistant Professor at the Universidad Politécnica de Madrid will give a talk entitled **Modern deep learning approaches for time series** will start on **Thursday (27.01.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **20 January 2022 - [AIRA seminar] Jakub Jakubowski** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Jakub Jakubowski, Ph.D. candidate at the AGH UST will give a talk entitled **Explainable anomaly detection in hot-rolling process** will start on **Thursday (20.01.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **13 January 2022 - [AIRA seminar] Szymon Bobek** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Szymon Bobek, assistant Professor at the Jagiellonian University will give a talk entitled **Challenges in Explainable Artificial Intelligence for Industry 4.0** will start on **Thursday (13.02.2022) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).

- **31 December 2021 - Two papers for the end of the 2021!** Our efforts in 2021 resulted in two papers published at the end of the year! We encourage you to read them and contact with us for more information. First one deals with the **Immersive Parallel Coordinates Plots (IPCP) system for Virtual Reality (VR)** (DOI: [10.3390/app12010331](https://doi.org/10.3390/app12010331); published on 30th December in MDPI Applied Sciences; **IF 2.679**). The second one presents **our solution for predictive maintenance (PdM)** (DOI: [10.3390/s22010291](https://doi.org/10.3390/s22010291); published on 31st December in MDPI Sensors; **IF 3.576**)



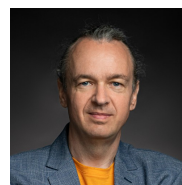
- **10 December 2021 - [AIRA seminar] Timos Kipouros.** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Timos Kipouros, a Senior Research Associate at the University of Cambridge will summarise some of the research threads being developed in the Engineering Design Centre at the University of Cambridge. His talk entitled **Visual Analytics for Aerospace and Healthcare Systems Design** will start on **Thursday (16.12.2021) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).

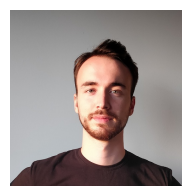


- **3 December 2021 - [AIRA seminar] Bartosz Soból.** We kindly invite you to the next seminar in the [AIRA series](https://aira.geist.re/). Bartosz Soból, a PhD Candidate at Jagiellonian University will present his research interests in a talk entitled **Recent developments of machine learning in experimental particle physics**. We start on **Thursday (09.12.2021) at 15:30!**

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **26 November 2021 - [AIRA seminar] Grzegorz J. Nalepa.** We kindly invite you to the next seminar in the [AIRA series](#). Professor [Grzegorz J. Nalepa](#) will summarise our research done in the area of Industry 4.0 in a talk entitled **Artificial Intelligence in Industry 4.0: Data, Models, and Knowledge**. We start on **Thursday (02.12.2021) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **19 November 2021 - [AIRA seminar] Marcin Tutajewski.** We kindly invite you to the next seminar in the [AIRA series](#). Marcin Tutajewski, a PhD Candidate at Jagiellonian University will present his research related to fMRI data analysis in a talk entitled **Classification of ROI-based fMRI data in short-term memory tasks using discriminant analysis and neural networks**. We start on **Thursday (25.11.2021) at 15:30!** See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **15 November 2021 - [AIRA seminar] Krzysztof Kutt: AI with psychology - a few words on affective adaptation and personalisation of intelligent systems.** The next seminar in the [AIRA series](#) will be devoted to the use of psychological methodology (in particular emotion research) in the development of intelligent systems. [Krzysztof Kutt](#) will highlight the key findings of research conducted in this area by the [AfCAI team](#). As always, we start on **Thursday (18.11.2021) at 15:30**. You are welcome! See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **1 November 2021 - [AIRA seminar] Andrzej Grabowski: Telepresence and simulators - modern use of Virtual Reality in robotics and training with possible application of AI.** We invite you to



the third seminar in the [AIRA series](https://aira.geist.re/). Andrzej Grabowski, head of Virtual Reality Laboratory in Department of Safety Engineering of Central Institute for Labour Protection – National Research Institute, will show three different VR applications and discuss the possibilities of improving training simulations by using AI to modify the course of the training scenario in real-time. We start on **4 November at 15:30**.

See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **25 October 2021 - [AIRA seminar] Marcin Woźniak: Smart environment - AI meets IoT.** The second seminar in the [AIRA series](https://aira.geist.re/) will begin **this Thursday (28.10.2021) at 15:30**. Marcin Woźniak, PhD, a Professor at Silesian University of Technology, will talk about IoT and AI-based solutions for smart environments. He will show and discuss latest advances and ideas in model of data processing and automatic control of processes and devices used in these environments. See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).



- **18 October 2021 - [AIRA seminar] Bartłomiej Małkus: Financial modeling with applications of machine learning and explainable AI.** We invite you to the first seminar in the [AIRA series](https://aira.geist.re/). Bartłomiej Małkus, a PhD candidate at the Jagiellonian University in Technical Computer Science, will talk about financial modelling, including financial instruments pricing, risk modeling and financial data sources that may be used for research purposes. We start on **21 October at 15:30**. See <https://aira.geist.re/> for more details (meeting link, abstract, biogram, full schedule).
- **10 October 2021 - AIRA seminar!** GEIST is happy to announce, that we are launching an **open, online seminar on Artificial Intelligence in Research and Applications (AIRA)**. It will be a weekly event with various guests from many different AI-related research fields as well as industry and business areas. Please save your Thursdays between 3:30-5:00 PM Warsaw Time. The program will be published at <https://aira.geist.re>

- **24 June 2021 - Paper in the Sensors: 20th Anniversary special issue!** We have published one more paper in MDPI Sensors (**IF 3.576**)! We encourage you to read our review on **Semantic Data Mining in Ubiquitous Sensing** – available in open access under DOI: [10.3390/s21134322](https://doi.org/10.3390/s21134322).
- **14 June 2021 - ICCS 2021 in Kraków (online).** This week we invite you to the [ICCS 2021](#) conference taking place remotely in Krakow, PL to listen to our five papers ([A Voice-based Travel Recommendation System Using Linked Open Data](#), [Introducing Uncertainty Into Explainable AI Methods](#), [Towards Model-Agnostic Ensemble Explanations](#), [Augmenting automatic clustering with expert knowledge and explanations](#), [Explanation-driven model stacking](#)) and many other interesting contributions!
- **14 June 2021 - Two papers were published** as proceedings of [IEEE DSAA 2021 Conference](#). [Explainable anomaly detection for Hot-rolling industrial process](#) from XPM project (eXplainable Predictive Maintenance; CHIST-ERA-19-XAI-012) and [Explainable clustering with multidimensional bounding boxes](#) from CHIST-ERA PACMEL project.



- **30 April 2021 - Special Session on XPdM 2021.** We would like to invite you to submit articles for the special session on Data-Driven Predictive Maintenance for Industry 4.0 (XPdM 2021) to be held on October 6-9, 2021, Porto-Portugal (Online), co-located with [IEEE DSAA 2021](#). It is co-organised by [Grzegorz J. Nalepa](#) and linked to our XPM project (eXplainable Predictive Maintenance; CHIST-ERA-19-XAI-012). Call for papers and more information are provided at: <https://sites.google.com/g.uporto.pt/ddpdm2021/>.



- **17 April 2021 - Summer School on Data-Driven Predictive Maintenance for Industry 4.0.** A summer school sponsored by the international XPM project (eXplainable Predictive Maintenance; CHIST-ERA-19-XAI-012), in which the Polish team is led by [Grzegorz J. Nalepa](#), will be held online on **October 3-5, 2021**. You are cordially invited! The Summer School is for students, researchers, and practitioners who want to **learn how to implement predictive maintenance to solve real industrial problems using machine learning approaches**. More

information at: <https://hh.se/PMSummerSchool>.

- **4 March 2021 - PRAXAI special session at DSAA.** We invite you to take part in a special session “Practical applications of explainable artificial intelligence methods (PRAXAI)” at [The 8th IEEE International Conference on Data Science and Advanced Analytics](#). It is related to the [CHIST-ERA PACMEL](#) project coordinated by [Grzegorz J. Nalepa](#). For more details and call for papers, see <http://praxai.geist.re>.
- **4 January 2021 - PANBA Minigrant.** [Krzysztof Kutt](#) received a research minigrant in the [DigiWorld Priority Research Area UJ](#). The project named “Personality, Affective Context and the Brain (PANBA)” is aimed at analyzing data from the [BIRAFFE2 experiment](#) and preparing a new research procedure that includes the use of EEG.

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