21st Conference on Computer Science and Intelligence Systems (FedCSIS 2026)

CONFERENCE REPORT

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The 21st Conference on Computer Science and Intelligence Systems (FedCSIS 2026) took place on 23-26 August 2026 in Riga, Latvia. It was chaired by Oksana Nikiforova, while Andrejs Romānovs was the Chair of the Organizing Committee.

This year, FedCSIS was organized by the Polish Information Processing Society (Mazovia Chapter), IEEE Poland Section Computer Society Chapter, Systems Research Institute Polish Academy of Sciences, The Faculty of Mathematics and Information Science of the Warsaw University of Technology, The Faculty of Electrical and Computer Engineering of the Rzeszów University of Technology, The Faculty of Electrical Engineering of the Riga Technical University, and The Faculty of Engineering and Management of the University of Technology and Arts in Applied Sciences.

FedCSIS 2026 was technically co-sponsored by the IEEE Poland Section, IEEE Serbia and Montenegro Section, IEEE Estonia Section, IEEE Latvia Section, IEEE Lithuania Section, IEEE South Africa Section, Serbia and Montenegro Section Computational Intelligence Society Chapter, IEEE Young Professionals Affinity Group, Novi Sad, Republic of Serbia, IEEE Romania Section WIE Affinity Group, Czechoslovakia Section Computer Society Chapter, Poland Section Computer Society (Gdańsk) Chapter, Estonia Section Computer Society Chapter, Latvia Section Computer Society Chapter, Lithuania Section Computer Society Chapter and Committee of Computer Science of the Polish Academy of Sciences.

FedCSIS 2026 was sponsored by InfoSoftware Polska as well as MDPI Information, MDPI Electronics, MDPI Technologies, MDPI Applied Sciences journals. Moreover, FedCSIS 2026 has been conducted under the patronages of: INFORMS Poland Chapter, Latvian Information and communications technology association (LIKTA), Naukowe Towarzystwo Informatyki Ekonomicznej, International Rough Set Society, Web Intelligence Consortium, Polish Neural Network Society, European Society for Fuzzy Logic and Technology, Polish Artificial Intelligence Society (PSSI). Finally, media patronage was provided by Forum Akademickie.

This year, the structure of the conference remained the same as last two years. FedCSIS 2026 had a single Main Track with 5 Topical Areas, which were supported by 16 Thematic Sessions and an Industrial Track. Such a structure emphasizes the integrity of the conference and its closeness to the issues that are crucial for the world around us. Here, we recognize the fact that today (in 2026) it is difficult to envision research (and its applications) without an intelligence component. Reflecting this, all five Topical Areas, which constitute the Main Track, represent various aspects of Intelligence Systems. Moreover, the Thematic Sessions provide further insights into selected areas of Intelligence Systems, approached from different perspectives.

I. Conference structure

Specifically, the designated Topical Areas were:

- Topical Area 1: Advanced Artificial Intelligence Approaches
- Topical Area 2: Intelligent Data Processing and Infrastructure
- Topical Area 3: Security of AI and AI for Security
- Topical Area 4: Intelligence Technologies for Business and Society
- Topical Area 5: Intelligent Software, System, and Service Engineering

Moreover, the following Thematic Sessions enriched the program of FedCSIS 2026:

- AgriAI - AI in Agriculture
- AI-HuSo - AI in Digital Humanities, Computational Social Sciences and Economics Research
- AIWAVOM - AI for Inland Water, Atmospheric Environments, and Ocean Modelling
- APL - Advances in Programming Languages
- CANA - Computer Aspects of Numerical Algorithms
- CNLPS - Challenges for Natural Language Processing
- CO - Computational Optimization
- DSH - Data Science in Health, Ecology and Commerce
- EDUC-AI-TION - Education & AI systems

- IoT-ECAW - Internet of Things - Enablers, Challenges and Applications
- ISM - Information Systems Management
- MDASD - Model Driven Approaches in System Development
- MMAP - Multimedia Applications and Processing
- NEMESIS - International Forum on Cyber Security, Privacy, and Trust
- SCA - Agentic AI in Smart Cities
- SLSAS - Self Learning and Self Adaptive Systems

II. Invited Contributions

FedCSIS 2026 invited four keynote speakers to deliver lectures providing a broader context for the conference participants.

- Ginter, Filip, TurkuNLP, Department of Computing University of Turku, Finland and ELLIS Institute, Finland
  Keynote title: The Challenges of Tracing Meaning at Scale across Multilingual Historical Texts
- Pechenizkiy, Mykola, Department of Mathematics and Computer Science, Eindhoven University of Technology, Netherlands
  Keynote title: Advancing the Science of Safe and Trustworthy AI Evaluation
- Prodan, Radu, Edge AI at the Department of Computer Science, University of Innsbruck, Austria
  Keynote title: Distribute and Learn 1 Billion
- Sabou, Marta, Vienna University of Economics and Business (WU), Austria
  Keynote title: Neuro-Symbolic Knowledge Engineering: Emerging Paradigms and Challenges

Moreover, four past FedCSIS keynote speakers have been invited to prepare regular full papers that refer to the core focus of the conference series. These were:

- Atiquzzaman, Mohammed, School of Computer Science, University of Oklahoma, USA
  EnsembleClassifier: Using Machine Learning to Select Exact Packet Classification Structures for Partitioned Rule Subsets
- Blum, Christian, Artificial Intelligence Research Institute (IIIA-CSIC), Spain
  Contribution title:Preserving Optimization Algorithm Expertise by means of Executable Algorithm Knowledge Graphs: A Worked Example on the TSP
- Skowron, Andrzej, Systems Research Institute Polish Academy of Sciences, Poland
  Contribution title:Evolution of Approximation Spaces in Rough Sets: From Relational Systems to Complex Adaptive Systems
- van der Aalst, Wil M.P., RWTH Aachen University, Germany
  Contribution title: Mining Bureaucracy Debt: Process Intelligence for Evidence-Based Deregulation

Videos of the keynote presentations and of invited contributions, delivered during the FedCSIS 2026 conference, are already available on the official conference website (www.fedcsis.org). We warmly encourage you to visit the website and watch these recordings to gain additional insights and perspectives shared by distinguished speakers. Moreover, videos from past keynote and invited contributions can also be found there.

III. Professor Zdzisław Pawlak Award

The above-described five Topical Areas of the FedCSIS Conferences reflect the five fundamental aspects of understanding, developing, and applying Intelligence Systems. This topical integrity is emphasized by the Professor Zdzisław Pawlak Award, presented in four categories: Best Paper, Young Researcher, Industry Cooperation, and International Cooperation. Here, note that although Professor Zdzisław Pawlak has often been recognized as "the father of Polish AI", his research achievements have gone far beyond AI itself, particularly toward AI applications and Intelligence Systems as we understand them. Accordingly, for this award, contributions from the Main Track and from all Thematic Sessions are considered. This year, the following contributions have been awarded:

- In the category *Best Paper*: Odītis Reinis, Odītis Ivo and Freivalds Kārlis, Automated Detection of Sosnowsky's Hogweed Using Sentinel-2 Imagery and Machine Learning
- In the category *Young Researcher*: Lenart Rafał, Bylina Beata and Bylina Jarosław, High-Performance GEMV on AMD Zen 3 via Architecture-Specific AVX2/FMA Optimization
- In the category *Industry Cooperation*: Miller Gloria, Accountability Mechanisms in AI Projects: An Empirical Analysis of Governance, Performance Control, Delivery, and Misconduct Management
- In the category *International Cooperation*: Basatti Hanumagowda Poornima, Mahadevappa Basavanna, Palaiahnakote Shivakumara, Hammad Saleem Muhammad, Mallappa Hanumanthu Niranjan, Alameer Ali and Saraee Mohamad, Diffusion–CLIP Guided Dual-Branch Framework for Infected Region Segmentation in Fruit and Leaf Images

The Young Researcher Award was sponsored by the MDPI Applied Sciences Journal, the International Cooperation Award was sponsored by the MDPI Electronics Journal, the Industry Cooperation Award was sponsored by the MDPI Technologies Journal, while the Best Paper Award was sponsored by the MDPI Information Journal.

Here, let us also note that the Professor Zdzisław Pawlak Awards have been presented to the authors of the best papers since 2006. A complete list of winners from past editions can be found within the FedCSIS conference portal.

IV. Statistics

Each contribution accepted for presentation was refereed by at least two referees and the acceptance rate of regular full papers was approximately 15.23% (32 accepted contributions, out of a total of 210 submissions representing 54 countries and 6 continents). Moreover, 34 contributions have been accepted as regular short papers. This brings the acceptance rate of regular papers (found in this volume) to 31.42% (66 out of 210). Since we live in times when "data should to be visualized" to facilitate comprehension, the long-term trend of acceptance of regular full papers is depicted in Figure 3. Note that this year the lowest, thus far, acceptance rate for regular full papers has been recorded.

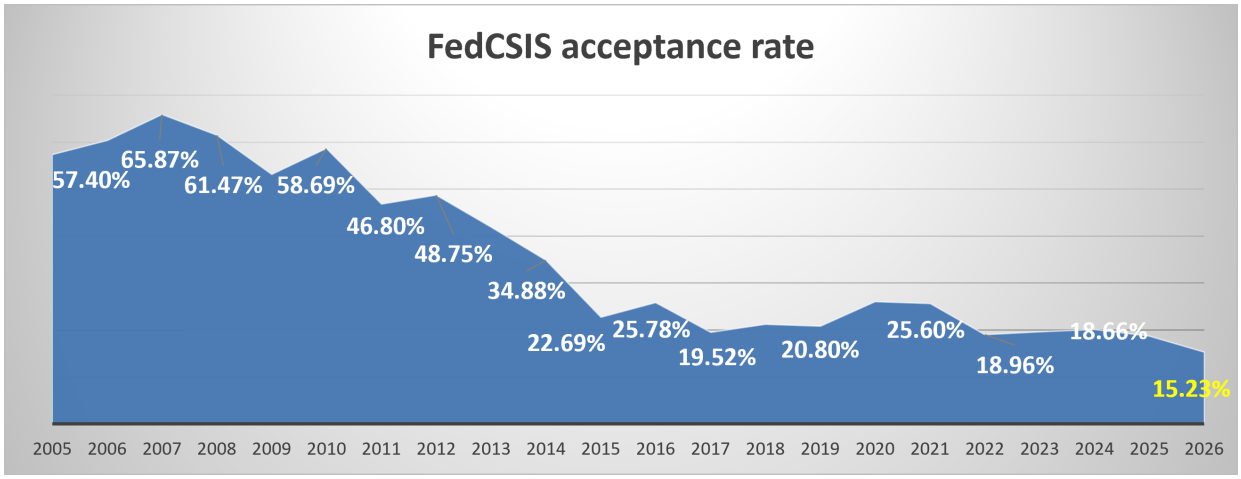


Figure 1. Acceptance rate for the regular full papers for the FedCSIS conference series, since 2005 (when FedCSIS' predecessor was organized for the first time).

V. FedCSIS indexation

While this is a report from the 2026 edition of FedCSIS, we would also like to share the most recent developments related to the biblometrics and to the conference-related publication indexation. All conference materials are indexed in DBPL, CrossRef, DOAJ Directory of Open Access Journals, Index Copernicus, Google Scolar. However, an important change took place between last year and "today". In July 2026 Scopus indexed all post-FedCSIS volumes from 2024 and 2025. Specifically, Proceedings, Communication Papers and Position Papers have been indexed in Scopus. This allows us to provide the most recent (October 2026) H index of FedCSIS (in Figure 2), which includes also four additional volumes from 2024 and 2025. Here, it is worth noting, that between March 2026 and October 2026 FedCSIS-related publications have gathered more than 2000 citations and "conference H-index" grew from 43 to 45.

Separately, we have submitted Annals of Computer Science and Information Systems (bookseries where all post-FedcSIS materials are published) to be evaluated by Index Copernicus. We have obtained score of 100. This is the highest score available for publication that does not have complete coverage in Scopus and Web of Science. Obviously, we expect higher score this year, after index recalculation.

VI. Post conference publications

As every year, as the result of the conference, three volumes have been published: (i) Conference Proceedings, (ii) Position Papers and (iii) Communication Papers. Specifically, they were initially published on the conference WWW site (as Preprints). After the conference, final versions of full and short papers have been indexed in the IEEE Digital Library (ART: ISBN 978-83-977088-2-2, IEEE Catalog Number CFP2685N-ART, Web: ISBN 978-83-977088-1-5, ISSN 2300-5963, DOI 10.15439/978-83-977088-1-5). Furthermore, they will be sent to Scopus and Clarivate Web of Science for indexing. Position Papers and Communication Papers were published as a separate volumes (ISSN 2300-5963; ISBN 978-83-977088-3-9 (Web), DOI: 10.15439/978-83-977088-3-9, for the Position Papers volume, and ISBN 978-83-977088-4-6 (Web), DOI: 10.15439/978-83-977088-4-6 for the Communication Papers volume). Moreover, Proceedings, Position Papers and Communication Papers of the FedCSIS 2026 Conference (in their final version) were posted at the conference WWW site – available through the Archive section of the www.fedcsis.org web-site (alongside publications from all past conferences). It should be stressed that only papers presented in the conference were published in either form (the FedCSIS conference series strictly adheres to the "IEEE No-show Policy").

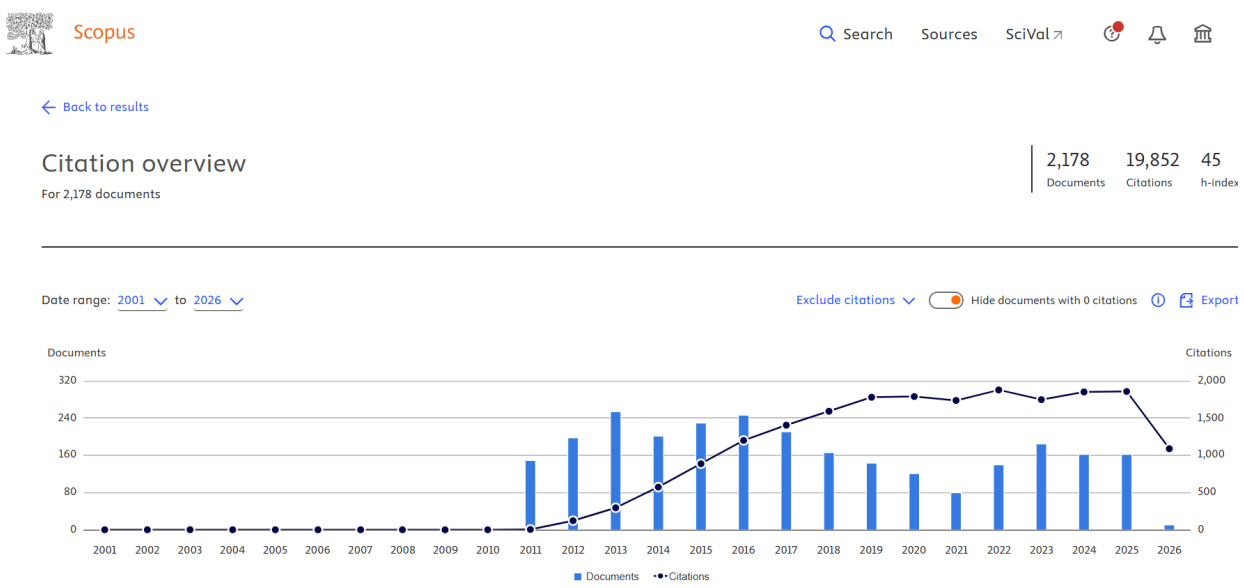


Figure 2. Bibliometrics of FedCSIS according to Scopus.

VII. FedCSIS in pictures

Let us also share a few pictures, taken during FedCSIS 2025.



Figure 3. Conference opening: participants of the panel “AI and SE in-the-large: Evolution or Revolution”, Conference organizers and Chair of FedCSIS 2027 prof. Ireneusz Czarnowski, Domus Auditorialis, Riga Technical University, Riga, Latvia.

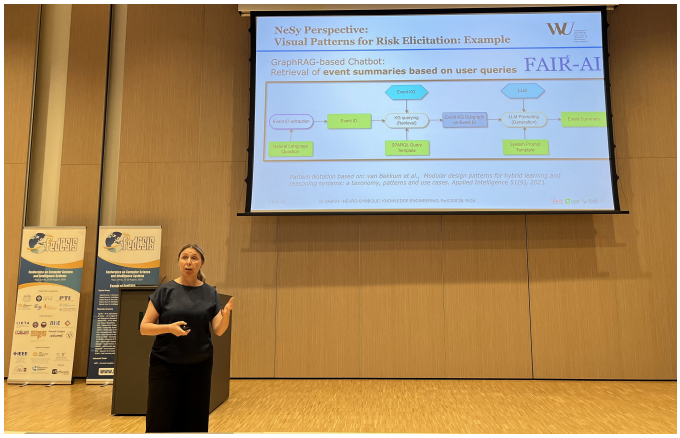


Figure 4. Keynote Marta Sabou: Neuro-Symbolic Knowledge Engineering: Emerging Paradigms and Challenges.

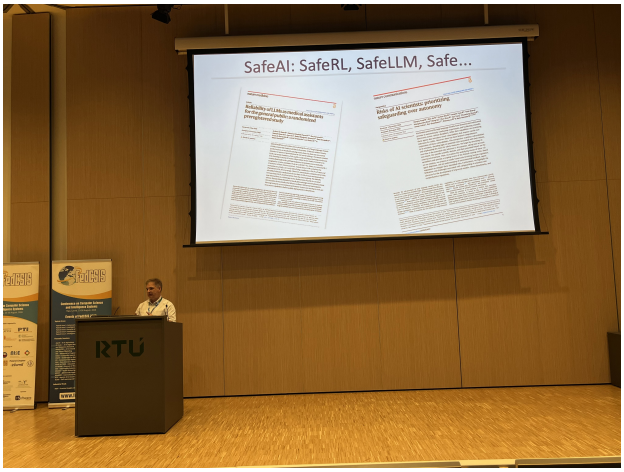


Figure 5. Keynote Pechenizkiy, Mykola: Advancing the Science of Safe and Trustworthy AI Evaluations



Figure 6. Keynote Prodan, Radu:Keynote Title Distribute and Learn 1 Billion

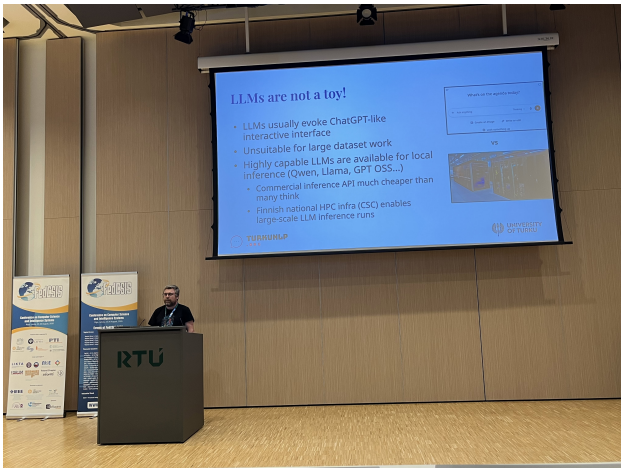


Figure 7. Professor Filipe Gunter delivering his keynote lecture.



Figure 8. Riga Technical University team



Figure 9. Family picture: Chairs team of FedCSIS.



Figure 10. Family picture: Chairs team of FedCSIS

Respectfully submitted by the facilitators of the FedCSIS Conference Series.

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