Model F17 - Memoriul științific al studentului doctorand

MEMORIU ȘTIINȚIFIC
Drd. Alexandra – Georgiana Andrei

Studii de doctorat

Perioada: 2021-2026
Conducător științific: Prof.dr.ing. Bogdan Ionescu
Domeniu: Inginerie Electronică Telecomunicații și Tehnologii Informaționale
Titlul tezei de doctorat: „Sisteme de Inteligență Artificială pentru Diagnostic și Monitorizare/ Artificial Intelligence Systems for Diagnosis and Monitoring of Medical Conditions”

Activitate științifică

A. Lista de lucrări științifice (articole în reviste sau volume)

(J1) A.-G. Andrei, M.G. Constantin, M. Graziani, H. Müller, B. Ionescu, "Privacy Preserving Histopathological Image Augmentation with Conditional Generative Adversarial Networks", Elsevier Pattern Recognition Letters, vol. 188, pp. 185-192, https://doi.org/10.1016/j.patrec.2024.12.014, ISSN: 0167-8655, 2025 (Q2 journal, Impact Factor: 3.3, WOS: 001407367700001).

(J2) A.-M. Tautan, A.-G. Andrei, C.L. Smeralda, G. Vatti, S. Rossi, B. Ionescu, "Unsupervised Learning from EEG Data for Epilepsy: A Systematic Literature Review", Elsevier Artificial Intelligence in Medicine, vol. 162,ISSN: 0933-3657, DOI:https://doi.org/10.1016/j.artmed.2025.103095, 2025 (Q1 journal, Impact Fac-tor: 6.2, WOS:001437200900001)

(J3) Mihai Gabriel Constantin, George Terinte-Balcan, Ioana Maria Lambrescu, Tudor Emanuel Fertig, Oana Bianca Lazăr, Alexandra-Georgiana Andrei, Nicoleta Petre, Bogdan Ionescu, Mihaela Gherghiceanu. Two-stage deep learning networks for the diagnosis and staging of membranous glomerulonephritis from electron microscopy images. Laboratory Investigation, 106141. ISSN: 0023-6837 (Q2 journal, Impact Factor: 4.2)

B. Cărți și manuale – capitole cărți

(B1) B. Ionescu, H. Müller, ..., A.-G. Andrei, ..., A. Popescu, "Overview of the Image-CLEF 2023: Multimedia Retrieval in Medical, Social Media and Internet Appli-cations", in Springer Lecture Notes in Computer Science, 14163, pp. 370–396,ISBN: 978-3-031-42447-2, DOI: https://doi.org/10.1007/978-3-031-42448-9_25,CLEF 2023 Proceedings, 18-21 September, Thessaloniki - Greece, 2023;
(B2) B. Ionescu, H. Müller, ..., A.-G. Andrei, Y. Prokopchuk, ..., B. Stein. "Overview of the ImageCLEF 2024: Multimedia Retrieval in Medical Applications", in Springer Lecture Notes in Computer Science, 14959, pp. 140–164, ISBN: 978-3-031-71907-3, DOI: https://doi.org/10.1007/978-3-031-71908-0_7, CLEF 2024 Proceedings, 9-12 September, Grenoble - France, 2024;
(B3) B. Ionescu, H. Müller, D.-C. Stanciu, A.-G. Andrei, ... B. Stein, Overview of ImageCLEF 2025: Multimedia Retrieval in Medical, Social Media and Content Recommendation Applications", in Springer Lecture Notes in Computer Science, 16089, pp. 290–314, ISBN: 978-3-032-04353-5, DOI: https://doi.org/10.1007/978- 3-032-04354-2_17, CLEF 2025 Proceedings, 9-12 September, Madrid - Spain, 2025;
(B4) B. Ionescu, H. Müller, ..., A.-G. Andrei, ..., A. Radzhabov, Y. Prokopchuk, V.Kovalev, D. Karpenka, ..., "Overview of ImageCLEF 2026: Multimodal Challenges in Medicine, Science, Agritech, and Security", in Springer Lecture Notes in Computer Science, 17087, pp. 465–492, ISBN: 978-3-032-39150-6, DOI: https://doi.org/10.1007/978-3-032-39150-6_29, CLEF 2026 Proceedings, Jena, Germany, 2026;

C. Participări la conferințe/workshop-uri

(C1) A.-G. Andrei, A. Radzhabov, I. Coman, V. Kovalev, B. Ionescu, H. Müller, "Overview of the ImageCLEFmedical GANs 2023 Task: Identifying Training Data "Fingerprints" in Synthetic Biomedical Images Generated by GANs for Medical Image Security", ImageCLEF 2023, CLEF Conference and Labs of the Evaluation Forum, ISSN: 1613-0073, September 18–21, 2023, Thessaloniki, Greece (indexed in DBLP Computer Science Bibliography);

(C2) A.-G. Andrei, B. Ionescu, "AIMultimediaLab at ImageCLEFmedical GANs 2023: Determining "Fingerprints" of Training Data in Generated Synthetic Images", ImageCLEF 2023, CLEF Conference and Labs of the Evaluation Forum, ISSN: 1613-0073, September 18–21, 2023, Thessaloniki, Greece (indexed in DBLP Computer Science Bibliography);

(C3) A.-G. Andrei, M.G. Constantin, M. Dogariu, B. Ionescu, "AI Multimedia Lab at ImageCLEFmedical GANs 2024: Deep Learning Approaches for Analyzing Synthetic Medical Images", ImageCLEF 2024, CLEF Conference and Labs of the Evaluation Forum, CEUR-WS, 3740, ISSN: 1613-0073, September 9–12, 2024, Grenoble, France (indexed in DBLP Computer Science Bibliography);

(C4) A.-G. Andrei, A. Radzhabov, D. Karpenka, Y. Prokopchuk, V. Kovalev, B. Ionescu, H. Müller, "Overview of 2024 ImageCLEFmedical GANs Task–investigating Generative Models' Impact on Biomedical Synthetic Images", ImageCLEF 2024, CLEF Conference and Labs of the Evaluation Forum, CEUR-WS, 3740, ISSN: 1613-0073, September 9–12, 2024, Grenoble, France (indexed in DBLP Computer Science Bibliography);

(C5) A.-G. Andrei, M.G. Constantin, M. Dogariu, L. Ştefan, B. Ionescu, "AI Multimedia Lab at ImageCLEFmedical GANs 2025: Identifying Real-image Usage in Generated Medical Images", ImageCLEF 2025, CLEF Conference and Labs of the Evaluation Forum, CEUR-WS, 4038, ISSN: 1613-0073, September 9–12, 2025, Madrid, Spain (indexed in DBLP Computer Science Bibliography);

(C6) A.-G. Andrei, M.G. Constantin, M. Dogariu, A. Radzhabov, L.D. Ştefan, Y. Prokopchuk, V. Kovalev, H. Müller, B. Ionescu, "Overview of ImageCLEFmedical 2025 GANs Task: Training Data Analysis and Fingerprint Detection", ImageCLEF 2025, CLEF Conference and Labs of the Evaluation Forum, CEUR-WS, 4038, ISSN: 1613-0073, September 9–12, 2025, Madrid, Spain (indexed in DBLP Computer Science Bibliography);

(C7) B. Ionescu, H. Müller, A.M. Drăgulinescu, A. Idrissi-Yaghir, A. Radzhabov, A.G.S. de Herrera, A. Andrei, et al. "Advancing Multimedia Retrieval in Medical, Social Media and Content Recommendation Applications with ImageCLEF 2024", in Advances in Information Retrieval: 46th European Conference on Information Retrieval, ECIR 2024 Proceedings, March 24–28, Glasgow, UK, 2024 (indexed in Web of Science);

(C8) A.-G. Andrei, M. G. Constantin, M. Dogariu, D. Karpenka, Y. Prokopchuk, A. Radzhabov, D.-C. Stanciu, L.-D. Stefan, V. Kovalev, H. Müller, B. Ionescu, ``Overview of the ImageCLEFmedical 2026 GANs Task: Exploring Fingerprint Detection, Privacy Leakage, and Synthetic Medical Image Generation", ImageCLEF 2026, CLEF Conference and Labs of the Evaluation Forum, September 21-24, Jena, Germany, 2026 (accepted and presented; proceedings forthcoming. Indexed in DBLP Computer Science Bibliography);

(C9) A.-G. Andrei, M. G. Constantin, M. Dogariu, D.-C. Stanciu, L.-D. Ștefan, B. Ionescu, ``AI Multimedia Lab at ImageCLEFmedical GANs 2026: Synthetic Medical Image Generation and Privacy Analysis", ImageCLEF 2026, CLEF Conference and Labs of the Evaluation Forum, September 21-24, Jena, Germany, 2026 (accepted and presented; proceedings forthcoming. Indexed in DBLP Computer Science Bibliography);

(C10) B. Ionescu, H. Müller, A.-M. Drăgulinescu, A. Popescu, A. Idrissi-Yaghir, A.G. Seco de Herrera, A. Andrei, et al. "ImageCLEF 2023 Highlight: Multimedia Retrieval In Medical, Social Media And Content Recommendation Applications", in Springer Lecture Notes in Computer Science, 13982, pp. 557–567,

ISBN: 978-3-031-28240-9, DOI: https://doi.org/10.1007/978-3-031-28241-6_64, ECIR 2023 Proceedings, April 2 – 6, Dublin, Ireland, 2023 (indexed in Web of Science);

(C11) B. Ionescu, H. Müller, D.-C. Stanciu, A. Idrissi-Yaghir, A. Radzhabov, A.G. Seco de Herrera, A. Andrei, et al. "ImageCLEF 2025: Multimedia Retrieval in Medical, Social Media and Content Recommendation Applications", in Advances in Information Retrieval: 47th European Conference on Information Retrieval, ECIR 2025 Proceedings, April 6–10, Lucca, Italy, 2025 (indexed in Web of Science);

(C12) A.-G. Andrei, H. Müller, B. Ionescu, "Privacy-Utility Tradeoff in Synthetic Medical CT Images: A Comprehensive Evaluation Across Generative Models", 14th European Conference on Visual Information Processing EUVIP 2026, Luxemburg, 2026.(Accepted and presented, proceedings forthcoming. Indexed in Web of Science)

(C13) A.-G. Andrei, A.M. Tăuțan, B. Ionescu, "Freezing of Gait Detection in Parkinson's Disease: Comparison of Deep Learning Frameworks", 18th IEEE International Symposium on Medical Measurements and Applications - MeMeA 2024, 26–28 June, Eindhoven, Netherlands, 2024, DOI: 10.1109/MeMeA60663.2024.10596827, ISSN: 2837-5882 (indexed in Web of Science);

(C14) A.-M. Tăuțan, A.-G. Andrei, B. Ionescu, "Freezing of Gait Detection for Parkinson's Disease Patients using Accelerometer data: Case study", IEEE International Conference on E-Health and Bioengineering - EHB, WOS: 000646194100095, October 29-30, Iași, Romania, 2020, (indexed in Web of Science);

(C15) B. Ionescu, H. Müller, D.-C. Stanciu, A. Radzhabov, A. A. Seco de Herrera, A.-G. Andrei, et al., ``ImageCLEF 2026: Multimodal Challenges in Medicine, Science, Agritech, and Security'', in Springer Lecture Notes in Computer Science, 16486, pp. 336--344, ISBN: 978-3-032-21321-1, DOI: https://doi.org/10.1007/978-3-032-21321-1_44, ECIR 2026 Proceedings, 2026.

D. Proiecte de cercetare științifică

1. „5G Scalable ubs for Accessible and Resilient Education/ Hub-uri scalabile 5G pentru educație accesibilă și rezilientă", cercetător
2. „SOL4/2024 Realizarea unei colecții de seturi de date pentru utilizarea în proiecte bazate pe algoritmi de inteligență artificială în domeniul securității naționale", doctorandă-asistentă cercetare,
3. „HARMAN", doctorandă
4. "A European Excellence Centre for Media, Society and Democracy", asistentă de cercetare/doctorandă, 17.03.2023 - 01.10.2023.
5. „SOL12/2024 Detecţia relaţiilor între entităţi în seturi de date nestructurate şi structurate", doctorandă-asistentă cercetare,
6. „Generare de Imagini Medicale cu Păstrarea Confidențialității – PrivacyGenMedAI" – Asociația Oamenilor de Știință din România, cercetătoare.
7. "Synthetic Data Privacy Attacks Management", cercetătore.
8. „Improving cancer detection in X-rays with the help of generative models / Îmbunătățirea capacității de depistare a cancerului în radiografii cu ajutorul modelelor generative", cercetătoare. - 10.01.2025.
9. „SMART-VLC: Transmisiune Securizată și Fiabilă în Comunicația Optică în Spectrul Vizibil", cercetătoare.

E. Stagii de perfecționare

1. 08.10.2022 – 03.10.22, Swiss European Mobility Programme + AI4Media Junior Fellows Exchange Program HES-SO Valais-Wallis, Sierre, Elveția.

F. Cursuri de perfecționare

1. 11 – 15.09.2023, „AI and Machine Learning in Healthcare Summer School at the Cambridge Center for AI in Medicine, University of Cambridge, Regatul Unit.

2. 24-28.07.2023, „1st European Summer School on Artificial Intelligence (ESSAI) & 20th Advanced Course on Artificial Intelligence (ACAI) organized jointly as 3rd TAILOR Summer School on Artificial Intelligence”.
3. 27–31.07.2026 – 17th European Summer School on Information Retrieval (ESSIR 2026), POLITEHNICA București – Centrul CAMPUS, în colaborare cu TU Wien, CRDM și CEA LIST
4. Matematică pentru înțelegerea Inteligenței Artificiale”, an universitar 2025-2026, semestrul I si II.

G. Membru în comitete de organizare sau comitete științifice ale conferințelor/colective de redacție ale unor reviste

1. 17th European Summer School on Information Retrieval (ESSIR 2026)
2. The Conference and Labs of the Evaluation Forum 2026, ImageCLEF track, chair sesiunea ImageCLEFmedical GANs task.
3. The Conference and Labs of the Evaluation Forum 2025, ImageCLEF track, chair sesiunea ImageCLEFmedical GANs task.
4. The Conference and Labs of the Evaluation Forum 2024, ImageCLEF track, chair sesiunea ImageCLEFmedical GANs task.
5. The Conference and Labs of the Evaluation Forum 2023, ImageCLEF track, chair sesiunea ImageCLEFmedical GANs task.

Student-doctorand

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