

Nume prenume conducător doctorat: Prof. dr. BÁLINT Zoltán

Nr. locuri la doctorat: 1

Loc 1/1 - bugetat cu bursă (sesiunea iulie)

Membrii comisiei de admitere:

1. Prof. dr. BÁLINT Zoltán
2. Prof. dr. DIOȘAN Laura
3. Conf. dr. JÁRAI-SZABÓ Ferenc

Tematica pentru examen:

1. Supervised and unsupervised learning methods and techniques for automatic image analysis
2. Application of intelligent algorithms for the development of medical decision support systems
3. Integration of physical models in neural networks and deep learning algorithms for biomedical applications.

Tematica pentru interviu:

1. Application of deep learning and novel machine learning techniques for semantic segmentation of biomedical images.
2. Explainable and trustworthy AI solutions for disease detection and classification using automated medical data analysis.

Bibliografie

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2. N. Shlezinger, J. Whang, Y. C. Eldar and A. G. Dimakis, Model-Based Deep Learning, Proceedings of the IEEE, 111(5), 465-499, 2023.
3. B. Cheng, A. Schwing and A. Kirillov, Per-pixel classification is not all you need for semantic segmentation, NeurIPS, 34, 17864-17875, 2021.
4. Nasir, K.; Reva, A.; Sekhar, J. Embedding Physics into Deep Learning: A Structured Review of Physics-Informed Neural Networks. Preprints 2025, 2025042577. <https://doi.org/10.20944/preprints202504.2577.v1>
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6. Gerats BGA, Wolterink JM, Broeders IAMJ. NeRF-OR: neural radiance fields for operating room scene reconstruction from sparse-view RGB-D videos. Int J Comput Assist Radiol Surg. 2025 Jan;20(1):147-156. doi: 10.1007/s11548-024-03261-5
7. Lekadir K, Frangi AF, Porras AR, et al; FUTURE-AI Consortium. FUTURE-AI: international consensus guideline for trustworthy and deployable artificial intelligence in healthcare. BMJ. 2025 Feb 5;388:e081554. doi: 10.1136/bmj-2024-081554.
8. Orzan Filip, Iancu Stefania, Diosan Laura, Bálint Zoltán. (2025). Textural analysis and artificial intelligence as decision support tools in the diagnosis of multiple sclerosis – a systematic review. Frontiers in Neuroscience. 18. 10.3389/fnins.2024.1457420
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Data, ora și locul examenului: 20.07.2026, ora 9, sala 209, UBB Str. Kogălniceanu 1

Membri comisiei de îndrumare și integritate academică:

1. Prof. dr. DIOȘAN Laura, UBB Cluj
2. CSI Dr. KOVÁCS Katalin, INCDTIM Cluj
3. Lect. Dr. SÁNDOR Csanád, UBB Cluj