



**Anexa nr. 1 – Cerere de premiere\***

**1. Candidat / Candidate**

Nume / Last Name: **Ionescu**

Nume anterioare (dacă este cazul): -

Prenume / First Name: **Radu Tudor**

Doctor din anul (se prezintă copie a diplomei de doctor sau echivalent) / Doctor since: **2014**

Poziția ocupată / Current Position: **Profesor / Professor**

Instituția / Institution: **Universitatea din București / University of Bucharest**

Telefon mobil / Mobile phone: '

Adresa de e-mail / Email address: **radu.ionescu@unibuc.ro**

**2. Ediția "Gala Cercetării Românești" / Edition of the „Romanian Research Gala”: 2024**

**3. Premiul și categoria pentru care aplică (individual sau echipă de cercetare) / Prize and category: individual, Premiul "Grigore Constantin Moisil" / individual, „Grigore Constantin Moisil” prize**

**4. Lider de echipă, dacă este cazul: -**

**5. Componenta echipei de cercetare, dacă este cazul (numele membrilor echipei, poziția ocupată, anul ultimei diplome acordate): -**

**6. O descriere a celor mai importante realizări științifice din ultimii 5 ani (max. 4 pag., format A4, caractere Times New Roman, 12 puncte, spațiere între linii de 1,5 și margini de 2 cm)\*\*.**

The most important scientific achievements of the candidate from the last 5 years are presented below. The first important contribution of the candidate is the development of several state-of-the-art methods for anomaly detection in industrial images and surveillance videos [J1; J3; J5; C6; C7; C8; C14; C33]. In the past five years, the candidate published several highly cited papers on anomaly detection according to Google Scholar, e.g. [C14] is cited over 330 times, [C8] is cited over 210 times, [C6] is cited more than 110 times, [C33] is cited over 100 times, [J5] is cited over 90 times and [C7] is cited over 60 times. These papers are published in the top venues in computer vision, namely CVPR (rank A\* conference), WACV (rank A conference), IEEE Transactions on Pattern Analysis and Machine Intelligence (Q1 journal) and Computer Vision and Image Understanding (Q1 journal). Radu Tudor Ionescu is also recognized for opening new directions of study in video anomaly detection, such as the object-centric formulation [C14] or the supervised open-set formulation [C7]. The recognition of the candidate in the field of anomaly detection is also demonstrated by the fact that he co-authored



a tutorial on „Recent Advanced in Anomaly Detection” held at CVPR 2023 (<https://sites.google.com/view/cvpr2023-tutorial-on-ad/>). Additionally, Radu Tudor Ionescu was invited to give several invited talks on anomaly detection, such as “Object-centric anomaly detection in video” at the 2021 AI4AN Workshop (<https://sites.google.com/view/ai4an2021/keynote-speakers/>), “Object-centric anomaly detection in video” at the University of Central Florida (<https://www.crcv.ucf.edu/2022/06/16/object-centric-anomaly-detection-in-video/>), and “Anomaly detection in video: approaches and challenges” at SSIP 2021 (<https://SSIP2021.riteh.hr/lecturer/radu-tudor-ionescu-ph-d/>). Abnormal event detection in surveillance videos has a significant positive impact on our society. For instance, it helps identify and respond to unusual or potentially threatening situations, preventing criminal activities such as theft, vandalism, or violence. This can lead to increased public safety and a better sense of security. In case of accidents or natural disasters, an anomaly detection system can initiate rapid responses, potentially saving lives and minimizing damage. At the same time, it can raise public awareness about safety and encourage responsible behavior. Knowing that abnormal activities are being monitored may deter individuals from engaging in illegal or harmful actions. In summary, the methods studied by Radu Tudor Ionescu, which reach state-of-the-art performance levels for abnormal event detection in real-time, are highly relevant for the society we currently live in.

The second important contribution of Radu Tudor Ionescu is a recent article on diffusion models [J2] (Q1 journal), which identifies three generic diffusion modeling frameworks: denoising diffusion probabilistic models, noise conditioned score networks, and stochastic differential equations. The article includes a detailed formal presentation for each of the three approaches. Furthermore, the authors further discuss the relations between diffusion models and other deep generative models, and introduce a multi-perspective categorization of diffusion models applied in computer vision. This article elucidates several aspects about diffusion models, being highly appreciated by researchers in the field. This statement is confirmed by the fact that [J2] already accumulated over 360 citations on Google Scholar. Moreover, the merit of this work is demonstrated by the fact that it is listed in top 3 most popular articles in IEEE Transactions on Pattern Analysis and Machine Intelligence, the most prestigious journal in AI, as shown in Figure 1.

The third important contribution of Radu Tudor Ionescu is the development of several curriculum learning methods [J4] (Q1 journal) that improve artificial intelligence (AI) models for image generation [C30] (rank A conference), object detection [J6] (Q1 journal), and representation



The screenshot displays the IEEE Transactions on Pattern Analysis and Machine Intelligence website. At the top, there is a navigation bar with links for Home, Popular, Early Access, Current Issue, All Issues, and About Journal. Below the navigation bar, the page title is "IEEE Transactions on Pattern Analysis and Machine Intelligence". The main content area is titled "Popular Documents - December 2023" and includes a "Popular Article Feed" section. A "Refine" sidebar on the left shows a date filter for "December 2023". The main list of documents includes:

- SegNet: A Deep Convolutional Encoder-Decoder Architecture for Image Segmentation** by Vijay Badrinarayanan; Alex Kendall; Roberto Cipolla. Publication Year: 2017, Page(s): 2481 - 2495. Cited by: Papers (10058).
- Multimodal Learning With Transformers: A Survey** by Peng Xu; Xiatian Zhu; David A. Clifton. Publication Year: 2023, Page(s): 12113 - 12132. Cited by: Papers (17).
- Diffusion Models in Vision: A Survey** by Florinel-Alin Croitoru; Vlad Hondru; Radu Tudor Ionescu; Mubarak Shah. Publication Year: 2023, Page(s): 10850 - 10869. Cited by: Papers (37).

Figure 1. Screenshot of the most popular papers in IEEE Transactions on Pattern Analysis and Machine Intelligence (<https://ieeexplore.ieee.org/xpl/topAccessedArticles.jsp?punumber=34>).

learning [C18] (rank A conference). In [C30], the authors employed an image difficulty predictor [C17] (rank A\* conference) to learn state-of-the-art generative adversarial networks (GANs) using three curriculum learning strategies. The authors compared the novel curriculum learning strategies with the classic training procedure on two tasks: image generation and image translation. The experiments showed that all strategies provide faster convergence and superior results. The candidate also explored curriculum learning in cross-domain object detection [J6]. In autonomous driving, there is a high need of accurate AI models, which require significant amounts of labeled training data. One solution to obtain this data without having to collect laborious manual annotations is using videogame engines. However, there is a large domain gap between synthetic data generated by videogame engines and the real world. In [J6], the authors proposed a state-of-the-art method to close this gap via self-



paced curriculum learning. The method allows the training of very accurate object detector on synthetic data, which is extremely useful in autonomous driving. More recently, the candidate also contributed to a study [C18] on curriculum learning to learn better data representations in a self-supervised manner. This approach has significant implications in the field of computer vision, where pre-trained models based on self-supervised learning are used on a wide variety of tasks to achieve state-of-the-art results. The candidate also co-authored a survey on curriculum learning [J4], which is cited over 210 times on Google Scholar. The recognition of the candidate in the area of curriculum learning is also demonstrated by the fact that he was invited to give a talk entitled “Towards Curriculum Learning from Images” at SSIP 2019 (<https://www.info.uvt.ro/ssip2019/#lecturers>).

The fourth important contribution of the candidate is the participation to the ACM Multimedia 2023 Computational Paralinguistics Challenge (ComParE), together with a PhD student under his supervision. The data set supplied by the organizers of the ComParE competition comprises real audio recordings between call center agents and customers who called to complain regarding some issue or to request some information. There were two separate classification tasks on this data set: request detection and complaint detection. In [C2] (rank A\* conference), the team from Romania lead by Radu Tudor Ionescu proposed a novel audio-textual pipeline to effectively harness multimodal features derived from both speech and text data, which are further integrated into a cascaded cross-modal transformer (CCMT). Remarkably, the model was declared the winner of the Requests Sub-Challenge (<http://www.compare.openaudio.eu/winners/>), surpassing the model of the second-best team by 3%. Moreover, the paper [C2] was accepted at ACMMM, a rank A\* conference, which is regarded as equivalent to top 25% of Q1 journals, according to the national standards for academic evaluation in computer science in Romania.

The fifth important achievement of Radu Tudor Ionescu is represented by his pro bono contribution to ION, the official AI-based assistant of the Romanian government. In this project, Radu Tudor Ionescu proposed the design of ION’s architecture, which is based on integrating several AI-based models, including a large language model and a topic modeling approach. He collaborated and advised with the developers on how to implement the proposed design. His major role on the development of the project ION is also confirmed on the project’s website (<https://ion.gov.ro/about>). The development of ION is still on going. The final goal of the project is to gather opinions of Romanian citizens from social media that are relevant to the government, aiming to help the government in taking informed decisions that better align with the public opinion.



The importance of the scientific contributions of Radu Ionescu is also appreciated by esteemed professors in the field. For example, Prof. Nicu Sebe from University of Trento (who has over 40.000 citations on Google Scholar: <https://scholar.google.ro/citations?user=stFCYOAAAAAJ&hl=en>), appreciates Radu Ionescu as follows: *“Prof. Radu Ionescu has made important contributions not only in computer vision but also in natural language processing and computational linguistics, illustrating the interdisciplinary aspect of his research. This is a particularly important point, as there are very few researchers able to have a good impact in several communities. Besides being an excellent researcher with an outstanding publication record in the Romanian research community, Prof. Radu Ionescu is also one of the young rising stars in several communities, being awarded several important awards.”* For further comments, Prof. Nicu Sebe can be contacted at [niculae.sebe@unitn.it](mailto:niculae.sebe@unitn.it).

7. Curriculum Vitae narativ al candidatului “individual” sau al fiecărui membru al echipei de cercetare, în cazul candidatului “echipă de cercetare”, din care să reiasă rezultatele activității de cercetare din ultimii 5 ani, conform indicatorilor cantitativi din Anexa nr. 2 la regulament și criteriilor de evaluare calitativă prevăzute în Anexa nr. 3 la regulament.

**Research output.** Radu Tudor Ionescu is a professor at the University of Bucharest, Romania. He graduated from the Faculty of Mathematics and Computer Science of the University of Bucharest in 2009, and he obtained a Masters of Science diploma in Artificial Intelligence as valedictorian from the same university. In 2014, Radu Tudor Ionescu completed his PhD at the University of Bucharest, receiving the 2014 Award for Outstanding Doctoral Research in Computer Science from the Romanian Ad Astra Association. The candidate has several important contributions which were disseminated in a total of 130 articles at international peer-reviewed conferences and journals, and in a research monograph with Springer [B1]. From the total number of articles, there are 100 articles [C1-C100] published at international conferences, and according to the CORE Conference Ranking, 17 of these papers are published in rank A\* conferences (CVPR 2016, 2019, 2021, 2022; NeurIPS 2020, 2021, 2022; ACL 2018, 2019, 2021; ICCV 2017, 2023; SIGIR 2023; ACM MM 2023; EMNLP 2023), 26 are published in rank A conferences (EMNLP 2014, 2018, 2022; WACV 2019, 2020, 2021, 2023, 2024; EACL 2017, 2021; NAACL 2019; ECML-PKDD 2020; INTERSPEECH 2020, 2021, 2022; ICONIP 2012, 2013, 2015, 2018, 2019; IJCNN 2021), and another 25 papers in rank B conferences or workshops. For the paper entitled “Kernels for Visual Words Histograms”, the candidate has received the “Caianiello Best Young Paper Award” at ICIAP 2013 (rank B). According to the national (Romanian) standards in computer science, rank A\*/A conferences are equivalent to Q1 journals, while





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rank B conferences are equivalent to Q2 journals. Moreover, the candidate has also published 30 articles [J1-J30] in peer-review journals, 27 of which have been published in journals indexed in the ISI Web of Knowledge. Among these 27 journal papers, 10 are published in Q1 journals (IEEE Transactions on Pattern Analysis and Machine Intelligence, International Journal of Computer Vision, Artificial Intelligence Review, Computational Linguistics, Neural Networks, Computers and Electronics in Agriculture, Computer Vision and Image Understanding, among others), and another 15 in Q2 journals (Neurocomputing, Journal of Digital Imaging, Pattern Recognition Letters, International Journal of Intelligent Systems, Applied Intelligence, among others). The international visibility of the candidate is not only demonstrated by the numerous papers published in top venues, but also by the high number of citations accumulated since he started his career in research in 2011. As shown on Google Scholar (<https://scholar.google.com/citations?user=qVbwC6QAAAAJ&hl=en>), the candidate has over 6570 citations. Radu Tudor Ionescu is also a member of several international research organizations, including ELLIS (<https://ellis.eu/members>), IEEE and ACM.

**International competitions on AI.** Together with other co-authors, Radu Tudor Ionescu has obtained good rankings at several (scientific) international competitions on the development of AI systems: 4th place in the Facial Expression Recognition Challenge of WREPL 2013, 3rd place in the NLI Shared Task of BEA-8 2013, 2nd place in the Arabic Dialect Identification Shared Task of VarDial 2016, 1st place in the Arabic Dialect Identification Shared Task of VarDial 2017, 1st place in the NLI Shared Task of BEA-12 2017, 1st place in the Arabic Dialect Identification Shared Task of VarDial 2018, and 1st place in the ACM Multimedia 2023 Computational Paralinguistics Challenge (ComParE) on request and complaint detection. The papers associated with these results attracted a lot of attention in the community, generating over 600 citations, as well as invitations to join the program committee of the corresponding workshops (BEA-8 to BEA-18, VarDial '18 to '23).

**Supervision of PhD students.** In 2018, the candidate have started supervising PhD students. Radu Tudor Ionescu supervised 4 PhD students who graduated with “Summa cum laude”, and he has 10 students under supervision. The graduated students are Iuliana Georgescu (postdoc at Technical University of Munich, +1200 citations on Google Scholar), Petru Soviany (lecturer at the University of Bucharest, +500 citations on Google Scholar), Cezara Benegui (lecturer at the University of Bucharest), Andrei Butnaru (senior software engineer at Fordaq, +400 citations on Google Scholar).

**Formation of research groups.** Together with Assoc. Prof. Marius Popescu and Assoc. Prof. Bogdan Alexe, the candidate formed the Artificial Intelligence group at the University of Bucharest. The group has published several joint papers at top-tier conferences and journals, e.g. [J5; J8; J9; J10; J21; J22;



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C5; C8; C9; C12; C16; C17; C20; C29; C33; C38; C42]. The group is also organizing bi-weekly meetings (<https://sites.google.com/view/ai-unibuc/home>) to discuss the latest trends in Artificial Intelligence.

**International collaborations.** During his academic journey, the candidate had the privilege of working with esteemed professors, including Prof. Mubarak Shah (University of Central Florida), Prof. Nicu Sebe (University of Trento), Prof. Thomas Moeslund (Aalborg University), Prof. Vittorio Ferrari (currently at Synthesia; ex Google, ex University of Edinburgh), Prof. Josiane Mothe (University of Toulouse). These experiences have improved the analytical and critical thinking skills of the candidate, as well as his ability to work both independently and collaboratively.

**Teaching.** In addition to his research accomplishments, the candidate has a strong commitment to teaching excellence. At the University of Bucharest, the candidate served as Lecturer between 2014 and 2016, Associate Professor between 2016 and 2019, and Full Professor since 2019. Since 2014, Radu Tudor Ionescu developed and improved instructional materials, facilitated class discussions, and provided constructive feedback to students. Since 2014, the candidate taught the following lectures: Machine Learning, Practical Machine Learning, Deep Learning, Computer Vision, iOS Application Development, Web Application Development. His teaching philosophy revolves around fostering a dynamic and inclusive learning environment, encouraging active student participation, and promoting critical thinking skills.

**Awards.** The quality of the research conducted by the candidate was also recognized via several international and national awards, which are listed below:

1. „Caianiello Best Young Paper Award” at ICIAP 2013 (rank B conference) for the paper entitled „Kernels for Visual Words Histograms”.
2. 2014 Award for Outstanding Doctoral Research in the field of Computer Science from the Romanian Ad Astra Association.
3. 2017 „Young Researchers in Science and Engineering” Prize organized by prof. Rada Mihalcea and Cluj-Napoca City Hall for young Romanian researchers in all scientific fields.
4. Outstanding Reviewer for SIGIR 2017 (rank A\* conference).
5. Best Invited Session Award for the session on „Supervised versus Unsupervised Methods for Intelligent Text Processing” at KES 2017 (rank B conference).
6. „Danubius Young Scientist Award 2018 for Romania” awarded by the Austrian Federal Ministry of Education, Science and Research.



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7. Romanian ANIS Association Award for the Computer Vision course at the University of Bucharest.
8. „Josef Umdasch Research Prize 2021” awarded by Umdasch Group (selected out of 89 teams from around the world).

**Community service.** It is important to mention that the candidate performed editorial and organizational activities in service of the research community. The candidate serves as associate editor at IEEE Transactions on Circuits and Systems for Video Technology (Q1 journal), Journal of Web Engineering (Q3 journal), and Mathematics (Q3 journal). He is also an active reviewer for journals such as IEEE Transactions on Pattern Analysis and Machine Intelligence (Q1), IEEE Transactions of Neural Networks and Learning Systems (Q1), International Journal of Computer Vision (Q1), IEEE Transactions on Image Processing (Q1), IEEE Transactions on Medical Imaging (Q1), as well as 23 more Q1 journals, and 6 more Q2 journals. Radu Tudor Ionescu served as Demo Program Chair at SIGIR 2023 (rank A\*), and as Area Chair at ACL 2023 (rank A\*), NeurIPS 2023 (rank A\*), and ICPR 2020, 2022 (rank B). He was invited to join the Program Committee of the following conferences: SIGIR 2016 to 2024 (A\*), CVPR 2018 to 2024 (A\*), ACL 2019 to 2023 (A\*), ICCV 2019 to 2023 (A\*), NeurIPS 2020 to 2023 (A\*), AAI 2020 to 2024 (A\*), ICLR 2022 to 2024 (A\*), ICML 2023 (A\*), WWW 2018 (A\*), WSDM 2021 to 2024 (A\*), SIGKDD 2021 to 2023 (A\*), EMNLP 2016 to 2023 (A); ECIR 2018 to 2024 (A); CIKM 2017 to 2023 (A); ECCV 2020 to 2024 (A); NAACL 2021, 2022 (A); ICONIP 2019, 2023 (A); WACV 2020 to 2024 (A); ECAI 2023, as well as 50 other rank B conferences and workshops.

**Criteria for Annex 2.** In Table 1, we refer to the evaluation criteria listed in Annex 2 of the prize.

Criterion	Observation	Criteria is met (based on self-assessment)
Annex 2. Criterion 1. Number of Q1 articles where the candidate is principal author or co-author.	10 articles, with 9 articles as principal author and 1 article as co-author (the 10 articles are listed in section 8 below).	Yes (minimum is 7)
Annex 2. Criterion 2. Highly Cited Researcher in the field of computer science.	Listed in top 1% of the Stanford University global list of top-cited scientists in various disciplines, for single recent year impact (2022).	No





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	However, the Stanford University ranking is based on Scopus, not of ISI Web of Science.	
Annex 2. Criterion 3. Number of international / national projects funded with at least 100.000 EURO and having at least 3 members, where the candidate is director / project coordinator.	4 projects, with 3 projects funded with more than 100.000 EURO where the candidate is director and there are at least 3 members, and 1 project with more than 100.000 EURO where the candidate is partner coordinator and the partner team has at least 3 members.	Yes (minimum is 1)
Annex 2. Criterion 4. Invited researcher / professor at prestigious international universities.	<p>The candidate was invited researcher at three prestigious universities:</p> <ul style="list-style-type: none"> <li>• the University of Edinburgh for 3 months, from June 15<sup>th</sup> to September 15<sup>th</sup>, 2015. The invitation letter from Prof. Vittorio Ferrari is attached. According to the Shanghai Ranking, the University of Edinburgh is in the top 40 universities in the world. In the Romanian list, the University of Edinburgh is listed at index 192.</li> <li>• University of Toulouse “Paul Sabatier” for 3 months, from January 15<sup>th</sup> to April 15<sup>th</sup>, 2018. The invitation letter from Prof. Josiane Mothe is attached. According to the Shanghai Ranking, the University of Toulouse is in the top 400 universities in the world. In the Romanian list, Paul Sabatier University is listed at index 331.</li> <li>• the University of Central Florida for 1 week, from June 12<sup>th</sup> to June 17<sup>th</sup>, 2022. The invitation letter from Prof. Mubarak Shah is attached. According to the</li> </ul>	Yes (minimum is 1)



	Shanghai Ranking, the University of Edinburgh is in the top 400 universities in the world. In the Romanian list, the University of Central Florida is listed at index 535.	
Annex 2. Criterion 5. Editor-in-Chief at an ISI indexed journal.	The candidate is editor at IEEE Transactions on Circuits and Systems for Video Technology (Q1 journal), Journal of Web Engineering (Q3 journal), and Mathematics (Q3 journal). However, is not acting as Editor-in-Chief to any ISI indexed journal.	No
Annex 2. Criterion 6. Cumulated influence score A.	$A_{Q1} = 1.00 + 1.75 + 0.15 + 1.11 + 1.40 + 0.33 + 0.48 + 0.72 + 0.26 + 0.07 = 7.27$ $A_{Q2} = 0.16 + 0.08 + 0.17 + 0.13 + 0.51 + 0.23 + 0.20 + 0.23 + 0.34 + 0.34 + 0.23 + 0.44 + 0.31 + 0.40 + 0.47 = 4.24$ $A_{Q3} = 0.18 + 0.18 = 0.36$ $A = A_{Q1} + A_{Q2} + A_{Q3} = 7.27 + 4.24 + 0.36 = 11.87$	Yes (minimum is 5)

Table 1. Table showing that the candidate meets at least three criteria from Annex 2.

8. Lista publicațiilor candidatului "individual" sau a fiecărui membru al echipei de cercetare, în cazul candidatului "echipă de cercetare", cu evidențierea publicațiilor relevante ale candidatului în ultimii 5 ani și a publicațiilor comune ale membrilor unei echipe de cercetare în cazul candidatului "echipă de cercetare". Se menționează și un link al paginii web unde se regăsesc publicațiile candidatului.

- **Articles indexed in ISI Q1 journals (based on AIS=article influence score):**

J1. N. Madan, N.C. Ristea, R.T. Ionescu, K. Nasrollahi, F.S. Khan, T.B. Moeslund, M. Shah. Self-Supervised Masked Convolutional Transformer Block for Anomaly Detection. IEEE Transactions on Pattern Analysis and Machine Intelligence, 46(1): 525–542, 2024.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $7.006 / 7 = 1.00$*



J2. F.A. Croitoru, V. Hondru, R.T. Ionescu, M. Shah. Diffusion Models in Vision: A Survey. IEEE Transactions on Pattern Analysis and Machine Intelligence, 45(9): 10850–10869, 2023.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $7.006 / 4 = 1.75$*

J3. A. Bărbălău, R.T. Ionescu, M.I. Georgescu, J. Dueholm, B. Ramachandra, K. Nasrollahi, F.S. Khan, T.B. Moeslund, M. Shah. SSMTL++: Revisiting self-supervised multi-task learning for video anomaly detection. Computer Vision and Image Understanding, 229: 103656, 2023.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $1.328 / 9 = 0.15$*

J4. P. Soviany, R.T. Ionescu, P. Rota, N. Sebe. Curriculum Learning: A Survey. International Journal of Computer Vision, 130: 1525–1565, 2022.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $4.436 / 4 = 1.11$*

J5. M.I. Georgescu, R.T. Ionescu, F.S. Khan, M. Popescu, M. Shah. A Background-Agnostic Framework with Adversarial Training for Abnormal Event Detection in Video. IEEE Transactions on Pattern Analysis and Machine Intelligence, 44(9): 4505–4523, 2022.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $7.006 / 5 = 1.40$*

J6. P. Soviany, R.T. Ionescu, P. Rota, N. Sebe. Curriculum self-paced learning for cross-domain object detection. Computer Vision and Image Understanding, 204: 103166, 2021.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $1.328 / 4 = 0.33$*

J7. R.T. Ionescu, A.L. Ionescu, J. Mothe, D. Popescu. Patch Autocorrelation Features: A translation and rotation invariant approach for image classification. Artificial Intelligence Review, 49(4): 549–580, 2018.

- *Role of candidate: First author.*
- *AIS divided by the number of authors:  $1.925 / 4 = 0.48$*

J8. R.T. Ionescu, M. Popescu, A. Cahill. String Kernels for Native Language Identification: Insights from Behind the Curtains. Computational Linguistics, 42(3): 491–525, 2016.

- *Role of candidate: First author.*
- *AIS divided by the number of authors:  $2.162 / 3 = 0.72$*



J9. R.T. Ionescu, A.L. Popescu, M. Popescu, D. Popescu. BiomassID: A biomass type identification system for mobile devices. *Computers and Electronics in Agriculture*, 113: 244–253, 2015.

- *Role of candidate: First author.*
- *AIS divided by the number of authors:  $1.049 / 4 = 0.26$*

J10. I.J. Goodfellow, D. Erhan, P.L. Carrier, A. Courville, M. Mirza, B. Hamner, W. Cukierski, Y. Tang, D. Thaler, D.-H. Lee, Y. Zhou, C. Ramaiah, F. Feng, R. Li, X. Wang, D. Athanasakis, J. Shawe-Taylor, M. Milakov, J. Park, R.T. Ionescu, M. Popescu, C. Grozea, J. Bergstra, J. Xie, L. Romaszko, B. Xu, Z. Chuang, Y. Bengio. Challenges in Representation Learning: A report on three machine learning contests. *Neural Networks*, 64: 59–63, 2015.

- *Role of candidate: Co-authors author.*
- *AIS divided by the number of authors:  $1.982 / 28 = 0.07$*

• **Articles indexed in ISI Q2 journals (based on AIS=article influence score):**

J11. N.C. Ristea, A.I. Miron, O. Savencu, M.I. Georgescu, N. Verga, F.S. Khan, R.T. Ionescu. CyTran: A Cycle-Consistent Transformer with Multi-Level Consistency for Non-Contrast to Contrast CT Translation. *Neurocomputing*, 538: 126211, 2023.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $1.151 / 28 = 0.16$*

J12. A.I. Ionescu, D.I. Atasiei, R.T. Ionescu, F. Ultimescu, A.A. Barnonschi, A.V. Anghel, C.A. Anghel, I.L. Antone-Iordache, R. Mitre, A.M. Bobolocu, A. Zamfir, H.D. Lișcu, S. Coniac, F. Șandru. Prediction of Subclinical and Clinical Multiple Organ Failure Dysfunction in Breast Cancer Patients - A Review Using AI Tools. *Cancers*, 16(2): 381, 2024.

- *Role of candidate: Co-author.*
- *AIS divided by the number of authors:  $1.096 / 14 = 0.08$*

J13. M.I. Georgescu, R.T. Ionescu, N.C. Ristea, N. Sebe. Nonlinear Neurons with Human-like Apical Dendrite Activations. *Applied Intelligence*, 53: 25984–26007, 2023.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.700 / 4 = 0.17$*

J14. I.A. Reshma, C. Franchet, M. Gaspard, R.T. Ionescu, J. Mothe, S. Cussat-Blanc, H. Luga, P. Brousset. Finding a Suitable Class Distribution for Building Histological Images Data Sets Used



in Deep Model Training - the Case of Cancer Detection. *Journal of Digital Imaging*, 35: 1326–1349, 2022.

- *Role of candidate: Co-author.*
- *AIS divided by the number of authors:  $1.065 / 8 = 0.13$*

J15. M. Găman, R.T. Ionescu. The Unreasonable Effectiveness of Machine Learning in Moldavian versus Romanian Dialect Identification. *International Journal of Intelligent Systems*, 37(8): 4928–4966, 2021.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $1.024 / 2 = 0.51$*

J16. N.C. Ristea, A. Anghel, R.T. Ionescu. Estimating the Magnitude and Phase of Automotive Radar Signals under Multiple Interference Sources with Fully Convolutional Networks. *IEEE Access*, 9: 153491–153507, 2021.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.685 / 3 = 0.23$*

J17. M. Burduja, R.T. Ionescu, N. Verga. Accurate and Efficient Intracranial Hemorrhage Detection and Subtype Classification in 3D CT Scans with Convolutional and Long Short-Term Memory Neural Networks. *Sensors*, 20(19): 5611, 2020.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.607 / 3 = 0.20$*

J18. M.I. Georgescu, R.T. Ionescu, N. Verga. Convolutional Neural Networks with Intermediate Loss for 3D Super-Resolution of CT and MRI Scans. *IEEE Access*, 8(1): 49112–49124, 2020.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.685 / 3 = 0.23$*

J19. C. Benegui, R.T. Ionescu. Convolutional Neural Networks for User Identification based on Motion Sensors Represented as Images. *IEEE Access*, 8(1): 61255–61266, 2020.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.685 / 2 = 0.34$*

J20. A. Butnaru, R.T. Ionescu. ShotgunWSD 2.0: An improved algorithm for global word sense disambiguation. *IEEE Access*, 7(1): 120961–120975, 2019.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.685 / 2 = 0.34$*





J21. M.I. Georgescu, R.T. Ionescu, M. Popescu. Local Learning with Deep and Handcrafted Features for Facial Expression Recognition. *IEEE Access*, 7(1): 64827–64836, 2019.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.685 / 3 = 0.23$*

J22. R.T. Ionescu, M. Popescu. PQ kernel: A rank correlation kernel for visual word histograms. *Pattern Recognition Letters*, 55(1): 51–57, 2015.

- *Role of candidate: First author.*
- *AIS divided by the number of authors:  $0.886 / 2 = 0.44$*

J23. L.P. Dinu, R.T. Ionescu, A.I. Tomescu. A Rank-Based Sequence Aligner with Applications in Phylogenetic Analysis. *PLoS One* 9(8): e104006, 2014.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.944 / 3 = 0.31$*

J24. L.P. Dinu, R.T. Ionescu. Clustering based on Median and Closest String via Rank Distance with Applications on DNA. *Neural Computing and Applications*, 24: 77–84, 2014.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.807 / 2 = 0.40$*

J25. L.P. Dinu, R.T. Ionescu. An Efficient Rank Based Approach for Closest String and Closest Substring. *PLoS One* 7(6): e37576, 2012.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.944 / 2 = 0.47$*

• **Journal articles indexed in ISI Q3 journals (based on AIS=article influence score):**

J26. M.I. Georgescu, G. Duță, R.T. Ionescu. Teacher-Student Training and Triplet Loss to Reduce the Effect of Drastic Face Occlusion. *Machine Vision and Applications*, 33: 12, 2021.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.529 / 3 = 0.18$*

J27. C. Benegui, R.T. Ionescu. Improving the Authentication with Built-in Camera Protocol Using Built-in Motion Sensors: A Deep Learning Solution. *Mathematics*, 9(15): 1786, 2021.

- *Role of candidate: Corresponding author.*
- *AIS divided by the number of authors:  $0.368 / 2 = 0.18$*



- **Journal Articles not indexed in ISI:**

J28. A.L. Popescu, R.T. Ionescu, D. Popescu. CardioWatch: A Solution for Monitoring the Heart Rate on a Mobile Device. *Scientific Bulletin of UPB*, 78(3): 63–74, 2016.

J29. R.T. Ionescu. Unisort: An Algorithm to Sort Uniformly Distributed Numbers in  $O(n)$  Time. *Journal of Information Technology (IREIT)*, 1(3), 2013.

J30. A.G. Chifu, R.T. Ionescu. Word Sense Disambiguation to Improve Precision for Ambiguous Queries. *Central European Journal of Computer Science*, 2(4): 398–411, 2012.

- **Conference articles published in rank A\* conferences (equivalent to top 20% of Q1 journals, according to the Romanian national standards for academic evaluation in computer science):**

C1. D.M. Broscoteanu, R.T. Ionescu. RoCliCo: A Romanian Clickbait Corpus of News Articles. In *Proceedings of EMNLP*, pp. 9547–9555, 2023.

C2. N.C. Ristea, R.T. Ionescu. Cascaded Cross-Modal Transformer for Request and Complaint Detection. In *Proceedings of ACM MM*, pp. 9467–9471, 2023.

C3. M.I. Georgescu, E. Fonseca, R.T. Ionescu, M. Lucic, C. Schmid, A. Arnab. Audiovisual Masked Autoencoders. In *Proceedings of ICCV*, pp. 16144–16154, 2023.

C4. E. Poesina, R.T. Ionescu, J. Mothe. iQPP: A Benchmark for Image Query Performance Prediction. In *Proceedings of SIGIR*, pp. 2953–2963, 2023.

C5. A. Manolache, F. Brad, A. Bărbălău, R.T. Ionescu, M. Popescu. VeriDark: A Large-Scale Benchmark for Authorship Verification on the Dark Web. In *Proceedings of NeurIPS*, pp. 15574–15588, 2022.

C6. N.C. Ristea, N. Madan, R.T. Ionescu, K. Nasrollahi, F.S. Khan, T.B. Moeslund, M. Shah. Self-Supervised Predictive Convolutional Attentive Block for Anomaly Detection. In *Proceedings of CVPR*, pp. 13576–13586, 2022.

C7. A. Acsintoae, A. Florescu, M.I. Georgescu, T. Mare, P. Sumedrea, R.T. Ionescu, F.S. Khan, M. Shah. UBnormal: New Benchmark for Supervised Open-Set Video Anomaly Detection. In *Proceedings of CVPR*, pp. 20143–20153, 2022.

C8. M.I. Georgescu, A. Bărbălău, R.T. Ionescu, F.S. Khan, M. Popescu, M. Shah. Anomaly Detection in Video via Self-Supervised and Multi-Task Learning. In *Proceedings of CVPR*, pp. 12742–12752, 2021.



- C9. T. Mare, G. Duță, M.I. Georgescu, A. Șandru, B. Alexe, M. Popescu, R.T. Ionescu. A realistic approach to generate masked faces applied on two novel masked face recognition data sets. In Proceedings of NeurIPS, 2021.
- C10. Ș.D. Dumitrescu, P. Rebeja, B. Lorincz, M. Găman, A. Avram, M. Ilie, A. Pruteanu, A. Stan, L. Roșia, C. Iacobescu, L. Morogan, G. Dima, G. Marchidan, T. Rebedea, M. Chitez, D. Yogatama, S. Ruder, R.T. Ionescu, R. Pașcanu, V. Pătrăucean. LiRo: Benchmark and leaderboard for Romanian language tasks. In Proceedings of NeurIPS, 2021.
- C11. A.C. Rogoz, M. Găman, R.T. Ionescu. SaRoCo: Detecting Satire in a Novel Romanian Corpus of News Articles. In Proceedings of ACL, pp. 1073–1078, 2021.
- C12. A. Bărbălău, A. Cosma, R.T. Ionescu, M. Popescu. Black-Box Ripper: Copying black-box models using generative evolutionary algorithms. In Proceedings of NeurIPS, pp. 20120–20129, 2020.
- C13. A. Butnaru, R.T. Ionescu. MOROCO: The Moldavian and Romanian Dialectal Corpus. In Proceedings of ACL, pp. 688–698, 2019.
- C14. R.T. Ionescu, F.S. Khan, M.I. Georgescu, L. Shao. Object-centric Auto-encoders and Dummy Anomalies for Abnormal Event Detection in Video. In Proceedings of CVPR, pp. 7842–7851, 2019.
- C15. M. Cozma, A. Butnaru, R.T. Ionescu. Automated essay scoring with string kernels and word embeddings. In Proceedings of ACL, pp. 503–509, 2018.
- C16. R.T. Ionescu, S. Smeureanu, B. Alexe, M. Popescu. Unmasking the abnormal events in video. In Proceedings of ICCV, pp. 2895–2903, 2017.
- C17. R.T. Ionescu, B. Alexe, M. Leordeanu, M. Popescu, D. Papadopoulos, V. Ferrari. How hard can it be? Estimating the difficulty of visual search in an image. In Proceedings of CVPR, pp. 2157–2166, 2016.
- **Conference articles published in rank A conferences (equivalent to Q1 journals, according to the Romanian national standards for academic evaluation in computer science):**
- C18. N. Madan, N.C. Ristea, K. Nasrollahi, T.B. Moeslund, R.T. Ionescu. CL-MAE: Curriculum-Learned Masked Autoencoders. In Proceedings of WACV, pp. 2492–2503, 2024.



- C19. M.I. Georgescu, R.T. Ionescu, A.I. Miron, O. Savencu, N.C. Ristea, N. Verga, F.S. Khan. Multimodal Multi-Head Convolutional Attention with Various Kernel Sizes for Medical Image Super-Resolution. In Proceedings of WACV, pp. 2195–2205, 2023.
- C20. F. Brad, A. Manolache, E. Burceanu, A. Bărbălău, R.T. Ionescu, M. Popescu. Rethinking the Authorship Verification Experimental Setups. In Proceedings of EMNLP, pp. 5634–5643, 2022.
- C21. N.C. Ristea, R.T. Ionescu, F.S. Khan. SepTr: Separable Transformer for Audio Spectrogram Processing. In Proceedings of INTERSPEECH, pp. 4103–4107, 2022.
- C22. R.T. Ionescu, A.G. Chifu. FreSaDa: A French Satire Data Set for Cross-Domain Satire Detection. In Proceedings of IJCNN, pp. 1–8, 2021.
- C23. N.C. Ristea, R.T. Ionescu. Self-paced ensemble learning for speech and audio classification. In Proceedings of INTERSPEECH, pp. 2836–2840, 2021.
- C24. A. Tache, M. Găman, R.T. Ionescu. Clustering Word Embeddings with Self-Organizing Maps. Application on LaRoSeDa - A Large Romanian Sentiment Data Set. In Proceedings of EACL, pp. 949–956, 2021.
- C25. Șandru, G. Duță, M.I. Georgescu, R.T. Ionescu. SuPER-SAM: Using the Supervision Signal from a Pose Estimator to Train a Spatial Attention Module for Personal Protective Equipment Recognition. In Proceedings of WACV, pp. 2817–2826, 2021.
- C26. Benegui, R.T. Ionescu. Adversarial Attacks on Deep Learning Systems for User Identification based on Motion Sensors. In Proceedings of ICONIP, pp. 752–761 2020.
- C27. Benegui, R.T. Ionescu. To augment or not to augment? Data augmentation in user identification based on motion sensors. In Proceedings of ICONIP, pp. 822–831, 2020.
- C28. N.C. Ristea, R.T. Ionescu. Are you wearing a mask? Improving mask detection from speech using augmentation by cycle-consistent GANs. In Proceedings of INTERSPEECH, pp. 2102–2106, 2020.
- C29. A. Bărbălău, A. Cosma, R.T. Ionescu, M. Popescu. A Generic and Model-Agnostic Exemplar Synthesis Framework for Explainable AI. In Proceedings of ECML-PKDD, pp. 190–205, 2020.
- C30. P. Soviany, C. Ardei, R.T. Ionescu, M. Leordeanu. Image Difficulty Curriculum for Generative Adversarial Networks (CuGAN). In Proceedings of WACV, pp. 3463–3472, 2020.
- C31. M.I. Georgescu, R.T. Ionescu. Recognizing Facial Expressions of Occluded Faces using Convolutional Neural Networks. In Proceedings of ICONIP, pp. 654–653, 2019.



- C32. R.T. Ionescu, A. Butnaru. Vector of Locally-Aggregated Word Embeddings (VLAWE): A Novel Document-level Representation. In Proceedings of NAACL, pp. 363–369, 2019.
- C33. R.T. Ionescu, S. Smeureanu, M. Popescu, B. Alexe. Detecting abnormal events in video using Narrowed Normality Clusters. In Proceedings of WACV, pp. 1951–1960, 2019.
- C34. R.T. Ionescu, A. Butnaru. Improving the results of string kernels in sentiment analysis and Arabic dialect identification by adapting them to your test set. In Proceedings of EMNLP, pp. 1084–1090, 2018.
- C35. P. Soviany, R.T. Ionescu. Continuous Trade-off Optimization between Fast and Accurate Deep Face Detectors. In Proceedings of ICONIP, 11302: 473–485, 2018.
- C36. R.T. Ionescu, A. Butnaru. Transductive learning with string kernels for cross-domain text classification. In Proceedings of ICONIP, 11303: 484–496, 2018.
- C37. P.A. Bricman, R.T. Ionescu. CocoNet: A deep neural network for mapping pixel coordinates to color values. In Proceedings of ICONIP, 11302: 64–76, 2018.
- C38. A. Butnaru, R.T. Ionescu, F. Hristea. ShotgunWSD: An unsupervised algorithm for global word sense disambiguation inspired by DNA sequencing. In Proceedings of EACL, pp. 915–925, 2017.
- C39. R.T. Ionescu. A Fast Algorithm for Local Rank Distance: Application to Arabic Native Language Identification. In Proceedings of ICONIP, 9490:390–400, 2015.
- C40. R.T. Ionescu, A.L. Popescu, D. Popescu. Texture Classification with Patch Autocorrelation Features. In Proceedings of ICONIP, 9489: 1–11, 2015.
- C41. R.T. Ionescu, M. Popescu, A. Cahill. Can characters reveal your native language? A language-independent approach to native language identification. In Proceedings of EMNLP, pp. 1363–1373, 2014.
- C42. I.J. Goodfellow, D. Erhan, P.L. Carrier, A. Courville, M. Mirza, B. Hamner, W. Cukierski, Y. Tang, D. Thaler, D.-H. Lee, Y. Zhou, C. Ramaiah, F. Feng, R. Li, X. Wang, D. Athanasakis, J. Shawe-Taylor, M. Milakov, J. Park, R.T. Ionescu, M. Popescu, C. Grozea, J. Bergstra, J. Xie, L. Romaszko, B. Xu, Z. Chuang, Y. Bengio. Challenges in Representation Learning: A report on three machine learning contests. In Proceedings of ICONIP, 8228: 117–124, 2013.
- C43. L.P. Dinu, R.T. Ionescu. Clustering based on Rank Distance with Applications on DNA. In Proceedings of ICONIP, 7667: 722–729, 2012.
- C44. L.P. Dinu, R.T. Ionescu, M. Popescu. Local Patch Dissimilarity for Images. In Proceedings of ICONIP, 7663: 117–126, 2012.





- **Conference articles published in rank B conferences (equivalent to Q2 journals, according to the Romanian national standards for academic evaluation in computer science):**

C45. A. Ghiță, R.T. Ionescu. Class Anchor Margin Loss for Content-Based Image Retrieval. In Proceedings of ICAART, 2024.

C46. M. Găman, A.G. Chifu, W. Domingues, R.T. Ionescu. FreCDo: A Large Corpus for French Cross-Domain Dialect Identification. In Proceedings of KES, pp. 366–373, 2023.

C47. M.I. Georgescu, R.T. Ionescu, A.I. Miron. Diversity-Promoting Ensemble for Medical Image Segmentation. In Proceedings of SAC, pp. 599–606, 2023.

C48. M. Burduja, R.T. Ionescu. Unsupervised medical image alignment with curriculum learning. In Proceedings of ICIP, pp. 3787–3791, 2021.

C49. I.A. Reshma, S. Cussat-Blanc, R.T. Ionescu, H. Luga, J. Mothe. Natural vs Balanced Distribution in Deep Learning on Whole Slide Images for Cancer Detection. In Proceedings of SAC, pp. 18–25, 2021.

C50. M.I. Georgescu, R.T. Ionescu. Teacher-Student Training and Triplet Loss for Facial Expression Recognition under Occlusion. In Proceedings of ICPR, pp. 2288–2295 2020.

C51. N.C. Ristea, A. Anghel, R.T. Ionescu. Fully Convolutional Neural Networks for Automotive Radar Interference Mitigation. In Proceedings of VTC-Fall, pp. 1–5, 2020.

C52. C. Benegui, R.T. Ionescu. A breach into the Authentication with Built-in Camera (ABC) Protocol. In Proceedings of ACNS, pp. 3–20, 2020.

C53. S. Dejean, R.T. Ionescu, J. Mothe, M.Z. Ullah. Forward and Backward Feature Selection for Query Performance Prediction. In Proceedings of SAC, pp. 690–697, 2020.

C54. M.I. Georgescu, R.T. Ionescu. Clustering Images by Unmasking - A New Baseline. In Proceedings of ICIP, pp. 1580–1584, 2019.

C55. S. Smeureanu, R.T. Ionescu. Real-Time Deep Learning Method for Abandoned Luggage Detection in Video. In Proceedings of EUSIPCO, pp. 1775–1779, 2018.

C56. S. Smeureanu, R.T. Ionescu, M. Popescu, B. Alexe. Deep Appearance Features for Abnormal Behavior Detection in Video. In Proceedings of ICIAP, 10485: 779–789, 2017.

C57. R.T. Ionescu, M. Popescu, C. Conly, V. Athitsos. Local Frame Match Distance: A Novel Approach for Exemplar Gesture Recognition. In Proceedings of EUSIPCO, pp. 818–822, 2017.



- C58. A. Butnaru, R.T. Ionescu. From Image to Text Classification: A Novel Approach based on Clustering Word Embeddings. In Proceedings of KES, 112: 1784–1793, 2017.
- C59. M. Popescu, C. Grozea, R.T. Ionescu. HASKER: An efficient algorithm for string kernels. Application to polarity classification in various languages. In Proceedings of KES, 112: 1756–1764, 2017.
- C60. R.T. Ionescu. Measuring the Local Non-Alignment Between Objects: Applications to Different Domains. In Proceedings of KES, 96: 838–847, 2016.
- C61. R.T. Ionescu, A.G. Chifu, J. Mothe. DeShaTo: Describing the Shape of Cumulative Topic Distributions to Rank Retrieval Systems without Relevance Judgments. In Proceedings of SPIRE, 9309: 75–82, 2015.
- C62. R.T. Ionescu, M. Popescu. Have a SNAK. Encoding spatial information with the Spatial Non-Alignment Kernel. In Proceedings of ICIAP, 9279: 97–108, 2015.
- C63. R.T. Ionescu, A.L. Popescu, D. Popescu. Patch Autocorrelation Features for Optical Character Recognition. In Proceedings of VISAPP, pp. 419–426, 2015.
- C64. R.T. Ionescu, M. Popescu. Objectness to Improve the Bag of Visual Words Model. In Proceedings of ICIP, pp. 3238–3242, 2014.
- C65. R.T. Ionescu, A.L. Popescu, M. Popescu. Texture Classification with the PQ Kernel. In Proceedings of WSCG, pp. 111–118, 2014.
- C66. R.T. Ionescu, A.L. Popescu, D. Popescu, M. Popescu. Local Texton Dissimilarity with Applications on Biomass Classification. In Proceedings of VISAPP, pp. 593–600, 2014.
- C67. L.P. Dinu, R.T. Ionescu. An Efficient Algorithm for Rank Distance Consensus. In Proceedings of AI\*IA, 8249: 505–516, 2013.
- C68. R.T. Ionescu, M. Popescu. Speeding up Local Patch Dissimilarity. In Proceedings of ICIAP, 8156: 1–10, 2013.
- C69. R.T. Ionescu, M. Popescu. Kernels for Visual Words Histograms. In Proceedings of ICIAP, 8156: 81–90, 2013.

- **Conference or workshop articles published in rank C events (equivalent to Q3 journals, according to the Romanian national standards for academic evaluation in computer science):**



- C70. P. Soviany, R.T. Ionescu. Optimizing the Trade-off between Single-Stage and Two-Stage Deep Object Detectors using Image Difficulty Prediction. In Proceedings of SYNASC, pp. 209–214, 2018.
- C71. R.T. Ionescu. Local Rank Distance. In Proceedings of SYNASC, pp. 219–226, 2013.
- C72. L.P. Dinu, R.T. Ionescu. Clustering based on Closest String via Rank Distance. In Proceedings of SYNASC, pp. 207–214, 2012.
- C73. L.P. Dinu, R.T. Ionescu. A Rank-based Approach of Cosine Similarity with Applications in Automatic Classification. In Proceedings of SYNASC, pp. 260–264, 2012.
- C74. L.P. Dinu, R.T. Ionescu. A genetic approximation for closest string via rank distance. In Proceedings of SYNASC, pp. 207–215, 2011.
- C75. L. Bicsi, B. Alexe, R.T. Ionescu, M. Leordeanu. JEDI: Joint Expert Distillation in a Semi-Supervised Multi-Dataset Student-Teacher Scenario for Video Action Recognition. In Proceedings of LIMIT (ICCV Workshop), 2023.
- C76. A. Dumitriu, F. Tatui, F. Miron, R.T. Ionescu, R. Timofte. Rip Current Segmentation: A Novel Benchmark and YOLOv8 Baseline Results. In Proceedings of NTIRE (CVPR Workshop), pp. 1261–1271, 2023.
- C77. A. Șandru, M.I. Georgescu, R.T. Ionescu. Feature-level augmentation to improve robustness of deep neural networks to affine transformations. In Proceedings of AROW (ECCV Workshop), 13801: 332–341, 2022.
- C78. M. Găman, L. Ghadamiyan, R.T. Ionescu, M. Popescu. Self-paced learning to improve text row detection in historical documents with missing labels. In Proceedings of TiE (ECCV Workshop), 13804: 253–262, 2022.
- C79. F.A. Croitoru, D.N. Grigore, R.T. Ionescu. Discriminability-enforcing loss to improve representation learning. In Proceedings of ECV (CVPR Workshop), pp. 2598–2602, 2022.
- C80. I.C. Duță, M.I. Georgescu, R.T. Ionescu. Contextual Convolutional Neural Networks. In Proceedings of NeurArch (ICCV Workshop), pp. 403–412, 2021.
- C81. N.C. Ristea, A. Anghel, R.T. Ionescu, Y.C. Eldar. Automotive Radar Interference Mitigation with Unfolded Robust PCA based on Residual Overcomplete Auto-Encoder Blocks. In Proceedings of EVW (CVPR Workshop), pp. 3209–3214, 2021.
- C82. R.T. Ionescu, M. Popescu, C. Grozea. Local Learning to Improve Bag of Visual Words Model for Facial Expression Recognition. In Proceedings of WREPL (ICML Workshop), 2013.



- C83. Noëmi Aepli, Antonios Anastasopoulos, Adrian-Gabriel Chifu, William Domingues, Fahim Faisal, Mihaela Gaman, Radu Tudor Ionescu, Yves Scherrer. Findings of the VarDial Evaluation Campaign 2022. In Proceedings of VarDial (COLING Workshop), pp. 1–13, 2022.
- C84. B.R. Chakravarthi, M. Găman, R.T. Ionescu, H. Jauhiainen, T. Jauhiainen, K. Linden, N. Ljubesic, N. Partanen, R. Priyadharshini, C. Purschke, E. Rajagopal, Y. Scherrer, M. Zampieri. Findings of the VarDial Evaluation Campaign 2021. In Proceedings of VarDial (EACL Workshop), pp. 1–11, 2021.
- C85. M. Găman, S. Cojocariu, R.T. Ionescu. UnibucKernel: Geolocating Swiss German Jodels Using Ensemble Learning. In Proceedings of VarDial (EACL Workshop), pp. 84–95, 2021.
- C86. M. Găman, R.T. Ionescu. Combining Deep Learning and String Kernels for the Localization of Swiss German Tweets. In Proceedings of VarDial (COLING Workshop), pp. 242–253, 2020.
- C87. M. Găman, D. Hovy, R.T. Ionescu, H. Jauhiainen, T. Jauhiainen, K. Linden, N. Ljubesic, N. Partanen, C. Purschke, Y. Scherrer, M. Zampieri. A Report on the VarDial Evaluation Campaign 2020. In Proceedings of VarDial (COLING Workshop), pp. 1–14, 2020.
- C88. M. Zampieri, S. Malmasi, Y. Scherrer, T. Samardzic, F. Tyers, M. Silfverberg, N. Klyueva, T.L. Pan, C.R. Huang, R.T. Ionescu, A.M. Butnaru, T. Jauhiainen. A Report on the Third VarDial Evaluation Campaign. In Proceedings of VarDial (NAACL Workshop), pp. 1–16, 2019.
- C89. A. Butnaru, R.T. Ionescu. UnibucKernel Reloaded: First Place in Arabic Dialect Identification for the Second Year in a Row. In Proceedings of the VarDial (COLING Workshop), pp. 77–87, 2018.
- C90. A. Butnaru, R.T. Ionescu. UnibucKernel: A kernel-based learning method for complex word identification. In Proceedings of the BEA-13 (NAACL Workshop), pp. 175–183, 2018.
- C91. P. Soviany, R.T. Ionescu. Frustratingly Easy Trade-off Optimization between Single-Stage and Two-Stage Deep Object Detectors. In Proceedings of CEFRL (ECCV Workshop), 11132: 366–378, 2018.
- C92. R.T. Ionescu, A. Butnaru. Learning to Identify Arabic and German Dialects using Multiple Kernels. In Proceedings of VarDial (EACL Workshop), pp. 200–209, 2017.
- C93. R.T. Ionescu, M. Popescu. Can string kernels pass the test of time in Native Language Identification? In Proceedings of the BEA-12 (EMNLP Workshop), pp. 224–234, 2017.
- C94. R.T. Ionescu, M. Popescu. UnibucKernel: An Approach for Arabic Dialect Identification based on Multiple String Kernels. In Proceedings of VarDial (COLING Workshop), pp. 135–144, 2016.



C95. R.T. Ionescu. Sailing your ship in different seas: A wonderful journey from text and DNA to images and back. In Proceedings of DACS (CiE Workshop), pp. 23–30, 2015.

C96. M. Popescu, R.T. Ionescu. The Story of the Characters, the DNA, and the Native Language. In Proceedings of the BEA-8 (NAACL Workshop), pp. 270–278, 2013.

- **Conference or workshop articles published in rank D events (equivalent to Q4 journals, according to the Romanian national standards for academic evaluation in computer science):**

C97. J.A. Justo, J. Garrett, D. Langer, M. Henriksen, R.T. Ionescu, T.A. Johansen. An Open Hyperspectral Dataset with Sea-Land-Cloud Ground-Truth from the HYPSONO-1 Satellite. In Proceedings of WHISPERS, 2023.

C98. I.A. Reshma, J. Mothe, S. Cussat-Blanc, H. Luga, C. Franchet, M. Gaspard, P. Brousset, R.T. Ionescu. A Study on the Impact of Class Distribution on Deep Learning - The Case of Histological Images and Cancer Detection. In Proceedings of CIRCLE, 2022.

C99. A.L. Popescu, R.T. Ionescu, D. Popescu. A Spatial Pyramid Approach for Texture Classification. In Proceedings of ISEEE, pp. 1–6, 2013.

C100. A.L. Popescu, D. Popescu, R.T. Ionescu, N. Angelescu, R. Cojocaru. Efficient Fractal Method for Texture Classification. In Proceedings of ICSCS, pp. 44–49, 2013.

- **Books:**

B1. R.T. Ionescu, M. Popescu. Knowledge Transfer between Computer Vision and Text Mining. Similarity-based Learning Approaches. Advances in Computer Vision and Pattern Recognition. Springer, 2016. ISBN: 978-3-319-30365-9.

- **The most relevant publications in last 5 years:**

1. N. Madan, N.C. Ristea, R.T. Ionescu, K. Nasrollahi, F.S. Khan, T.B. Moeslund, M. Shah. Self-Supervised Masked Convolutional Transformer Block for Anomaly Detection. IEEE Transactions on Pattern Analysis and Machine Intelligence, 46(1): 525–542, 2024.

2. F.A. Croitoru, V. Hondru, R.T. Ionescu, M. Shah. Diffusion Models in Vision: A Survey. IEEE Transactions on Pattern Analysis and Machine Intelligence, 45(9): 10850–10869, 2023.





3. A. Bărbălău, R.T. Ionescu, M.I. Georgescu, J. Dueholm, B. Ramachandra, K. Nasrollahi, F.S. Khan, T.B. Moeslund, M. Shah. SSMTL++: Revisiting self-supervised multi-task learning for video anomaly detection. *Computer Vision and Image Understanding*, 229: 103656, 2023.
4. P. Soviany, R.T. Ionescu, P. Rota, N. Sebe. Curriculum Learning: A Survey. *International Journal of Computer Vision*, 130: 1525–1565, 2022.
5. M.I. Georgescu, R.T. Ionescu, F.S. Khan, M. Popescu, M. Shah. A Background-Agnostic Framework with Adversarial Training for Abnormal Event Detection in Video. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 44(9): 4505–4523, 2022.
6. P. Soviany, R.T. Ionescu, P. Rota, N. Sebe. Curriculum self-paced learning for cross-domain object detection. *Computer Vision and Image Understanding*, 204: 103166, 2021.
7. D.M. Broscoteanu, R.T. Ionescu. RoCliCo: A Romanian Clickbait Corpus of News Articles. In *Proceedings of EMNLP*, pp. 9547–9555, 2023.
8. N.C. Ristea, R.T. Ionescu. Cascaded Cross-Modal Transformer for Request and Complaint Detection. In *Proceedings of ACM MM*, pp. 9467–9471, 2023.
9. M.I. Georgescu, E. Fonseca, R.T. Ionescu, M. Lucic, C. Schmid, A. Arnab. Audiovisual Masked Autoencoders. In *Proceedings of ICCV*, pp. 16144–16154, 2023.
10. E. Poesina, R.T. Ionescu, J. Mothe. iQPP: A Benchmark for Image Query Performance Prediction. In *Proceedings of SIGIR*, pp. 2953–2963, 2023.
11. A. Manolache, F. Brad, A. Bărbălău, R.T. Ionescu, M. Popescu. VeriDark: A Large-Scale Benchmark for Authorship Verification on the Dark Web. In *Proceedings of NeurIPS*, pp. 15574–15588, 2022.
12. N.C. Ristea, N. Madan, R.T. Ionescu, K. Nasrollahi, F.S. Khan, T.B. Moeslund, M. Shah. Self-Supervised Predictive Convolutional Attentive Block for Anomaly Detection. In *Proceedings of CVPR*, pp. 13576–13586, 2022.
13. A. Acsintoae, A. Florescu, M.I. Georgescu, T. Mare, P. Sumedrea, R.T. Ionescu, F.S. Khan, M. Shah. UBnormal: New Benchmark for Supervised Open-Set Video Anomaly Detection. In *Proceedings of CVPR*, pp. 20143–20153, 2022.
14. M.I. Georgescu, A. Bărbălău, R.T. Ionescu, F.S. Khan, M. Popescu, M. Shah. Anomaly Detection in Video via Self-Supervised and Multi-Task Learning. In *Proceedings of CVPR*, pp. 12742–12752, 2021.



15. T. Mare, G. Duță, M.I. Georgescu, A. Șandru, B. Alexe, M. Popescu, R.T. Ionescu. A realistic approach to generate masked faces applied on two novel masked face recognition data sets. In Proceedings of NeurIPS, 2021.
16. Ș.D. Dumitrescu, P. Rebeja, B. Lorincz, M. Găman, A. Avram, M. Ilie, A. Pruteanu, A. Stan, L. Roșia, C. Iacobescu, L. Morogan, G. Dima, G. Marchidan, T. Rebedea, M. Chitez, D. Yogatama, S. Ruder, R.T. Ionescu, R. Pașcanu, V. Pătrăucean. LiRo: Benchmark and leaderboard for Romanian language tasks. In Proceedings of NeurIPS, 2021.
17. A.C. Rogoz, M. Găman, R.T. Ionescu. SaRoCo: Detecting Satire in a Novel Romanian Corpus of News Articles. In Proceedings of ACL, pp. 1073–1078, 2021.
18. A. Bărbălău, A. Cosma, R.T. Ionescu, M. Popescu. Black-Box Ripper: Copying black-box models using generative evolutionary algorithms. In Proceedings of NeurIPS, pp. 20120–20129, 2020.
19. A. Butnaru, R.T. Ionescu. MOROCO: The Moldavian and Romanian Dialectal Corpus. In Proceedings of ACL, pp. 688–698, 2019.
20. R.T. Ionescu, F.S. Khan, M.I. Georgescu, L. Shao. Object-centric Auto-encoders and Dummy Anomalies for Abnormal Event Detection in Video. In Proceedings of CVPR, pp. 7842–7851, 2019.

- All articles are also listed at this link: <http://raduionescu.herokuapp.com>

9. Lista proiectelor de cercetare câștigate de candidat și valoarea acestora.

- **List of coordinated projects as director or partner coordinator:**

1. Title: Economic competitiveness growth of SC SECURIFAI SRL through the development of the SecurifAI innovative software using artificial intelligence technology applied to security.

- Project Type: POC AI – A1.1.1 – C – 2015 – Tip proiect: „ÎNTREPRINDERI INOVATOARE DE TIP START-UP ȘI SPIN-OFF”
- Position: director
- Funded sum: 212.500 EURO
- Period: September 2016 - March 2018
- Team size: 4 members

2. Title: Object recognition in images using curriculum learning.



## MINISTERUL CERCETĂRII, INOVĂRII ȘI DIGITALIZĂRII

- Project ID: PN-III-P1-1.1-PD-2016-0787.
  - Position: director
  - Funded sum: 50.856 EURO
  - Period: May 2018 - February 2020
  - Team size: 2 members
3. Title: Efficient Learning and Optimization Tools for Hyperspectral Imaging Systems.
- Project ID: EEA-RO-NO-2019-0184.
  - Position: partner coordinator
  - Funded sum: 1.199.998 EURO (225.000 EURO for coordinated partner)
  - Period: September 2020 - December 2023
  - Team size (of coordinated partner): 4 members
4. Title: CULTiVA: Curriculum Learning in Text Mining and Visual Question Answering.
- Project ID: PN-III-P1-1.1-TE-2019-0235
  - Position: director
  - Funded sum: 100.000 EURO
  - Period: September 2020 - August 2022
  - Team size: 4 members
5. Towards Green Abnormal Event Detection in Video.
- Project ID: PN-III-P2-2.1-PED-2021-0195
  - Position: director
  - Funded sum: 120.000 EURO
  - Period: July 2022 - June 2024
  - Team size: 4 members
10. Lista brevetelor depuse și a celor acceptate, dacă este cazul.
- **Accepted US patents:**
    1. R.T. Ionescu, M.I. Georgescu, A. Șandru, G.E. Duță. System and method for automatic detection and recognition of people wearing personal protective equipment using deep learning. U.S. Patent US11482030B2, issued October 25, 2022.
    2. R.T. Ionescu, A.I. Ungureanu, I. Dumitran. System and method for user recognition using motion sensor data. U.S. Patent US11733780B2, issued August 22, 2023.



UNIVERSITY OF CENTRAL FLORIDA

**Center for Research in Computer Vision**  
4328 Scorpius Street, HEC 245  
Orlando, FL 32816-2365

March 24, 2022

Radu Ionescu  
15 Ovidiu, Bl. LC5, Ap. 51  
Gelati, Romania, 800080

Dear Dr. Prof. Radu Ionescu

I am pleased to extend this invitation to you to visit the Center for Research in Computer Vision at the University of Central Florida (UCF) from June 12, 2022 to June 17, 2022.

I will cover your flight to Orlando and the hotel for the duration of your stay.

With warmest regards,

A handwritten signature in black ink, appearing to read "Mubarak Shah", is positioned below the text "With warmest regards,".

Dr. Mubarak Shah  
Trustee Chair Professor & Director  
Center for Research in Computer Vision  
University of Central Florida



THE UNIVERSITY *of* EDINBURGH

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Radu Tudor Ionescu  
University of Bucharest

Date: 25 November 2014

Dear Mr Ionescu

**Invitation to visit our research laboratory as part of a research cooperation**

We are pleased to invite you to visit the University of Edinburgh, for a period of three months, to work on a research project on computer vision. The visit will begin at the end of June 2015.

The laboratory will provide you with a computer, office space and other computing services (internet access, printer, access to a computing cluster). However, the laboratory will not finance any costs associated with your visit (no salary, lodging, meals).

Throughout your visit, I will be your scientific supervisor and if you have questions, please let me know.

We are looking forward to your visit.

**DR VITTORIO FERRARI**  
University of Edinburgh  
Institute of Perception and Behaviour



Toulouse, 20th of October 2017

Professor Radu Tudor Ionescu  
Faculty of Mathematics and Computer Science  
University of Bucharest

### INVITATION LETTER

Dear Professor Radu Tudor Ionescu,

I am very pleased to inform you that the CIMI LabEx is able to offer you a visiting position for three months from January to April 2018 (exact dates to be confirmed).

During your stay you will receive a monthly net salary of 3,000€. In addition we will be pleased to reimburse you the cost of your travel expenses up to a maximum of 500€. This reimbursement requires the presentation of receipts.

During your visit, you will receive office space and access to the full facilities of IMT and IRIT (office, IT equipment, calculation platform, internal library).

We would be grateful if you would confirm acceptance of this invitation as soon as possible as well as confirm the dates of your visit.

Upon receiving your confirmation, our CIMI Project Manager, Isabelle Guichard, will work with you to make the necessary preparations for your visit. Your timely response to her requests will help ensure a smooth handling of the logistics.

Finally let me say on behalf of the IMT and IRIT Institutes that I very much hope you will accept this invitation. The success of the newly formed CIMI LabEx very much depends on the participation of high-quality visitors such as yourself.

We are looking forward to having you as part of this exciting project.

Kind regards

C. Besse

CIMI Scientific Coordinator

