

Anexa nr. 1 – Cerere de premiere*

1. Candidat

Nume: Belciug

Nume anterioare (dacă este cazul): Gorunescu

Prenume: Smaranda

Doctor din anul (se prezintă copie a diplomei de doctor sau echivalent): 2011

Poziția ocupată: Associate Professor Dr. Habil.

Instituția: University of Craiova

Telefon mobil: +4

Adresa de e-mail:

2. Ediția “Gala Cercetării Românești”: 2024

3. Premiul și categoria pentru care aplică (individual sau echipă de cercetare): Matematică și Informatică Premiul Grigore Constantin Moisil – research team (echipă de cercetare).

4. Lider de echipă, dacă este cazul: Belciug Smaranda, 2023 - habilitation

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

- Iliescu Dominic Gabriel – Professor Dr. Habil. 2017 habilitation (researcher)
- Serbănescu Mircea Sebastian - Associate Professor, 2023 – habilitation (researcher)
- Ivănescu Renato Constantin – Assistant Professor, 2023 - PhD (junior researcher)
- Comănescu Maria Cristina – Lecturer, 2019, PhD - (junior researcher)
- Istrate-Ofițeru Anca Maria – Assistant Professor, 2020 – PhD (junior researcher)
- Nagy Rodica Gabriela - Dr – 2023, PhD (junior researcher)
- Nascu Andrei Gabriel – Assistant Professor, 2023 – Master degree (junior researcher)

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 accomplishment in the past five years, for us as a team, was finding each other: Artificial Intelligence (AI) data scientists and open-minded medical professionals. Throughout our careers, single or ensemble, our goal was to make a difference in the healthcare system. There is an old saying: *“The cleverest housewife can’t cook without rice”*, translated in our line of duty as *“the cleverest data scientist cannot use AI without data”*. The healthcare system is getting more and more complex, millions of data being produced daily. This data cannot be assessed by a human mind. We are faced with two possibilities: *a)* ignore the data, and *b)* use it to make the world a better place. Us, as a team, have not ignored the data, have not ignored the change to progress. We have focused on

making a step forward in what regards woman's health. We would like to live in a world, where all women have a chance of getting the proper medical care everyone deserves, no matter their race, social and economic status, or geographic location. Sadly, no one chooses the conditions in which we are born, we grow, and we live. We do have a little power to change our lives, but not enough to make a difference. All these arbitrary conditions are making an impact on our health and wellbeing. These conditions are often interlinked. It is obvious that someone who lost her job will have little access to healthy food, proper housing conditions, or medical insurance. Women are having trouble accessing proper medical care due to various reasons such as: no medical services in their local area, no transport access, literacy, fear, misinformation, etc.

During the past five years we have proposed as a possible solution to reduce the women's healthcare inequalities the use of Artificial Intelligence. By building AI models that use the knowledge of well renown, experienced doctors, we will be able to provide access to high medical care in every corner of the world. The AI system works as a councilor that aids the local physician in setting a diagnosis, in proving a proper treatment, etc. The team members developed new AI models that proved to be successful: several AI models that can detect breast, colon and lung cancer using gene expression proteomic spectra and image scans, AI models that can predict the survival rate after heart attack, AI models that can predict the type of birth, and AI models that can differentiate between the view planes of the fetal abdomen during an ultrasound morphology scan. All these models have been published in Q1 journals and monographs published by Springer and Elsevier.

In what follows we shall demonstrate what we have realized in this respect over the past five years.

C1. Results of our research activity

Our team members have authored 3 *monographs* which have been published by prestigious international publishing houses: *Intelligent Decision Support Systems - a journey to smarter healthcare*, Springer Nature, *Artificial Intelligence in Cancer: diagnostic to tailored treatment*, Elsevier Academic Press, and *Pregnancy with Artificial Intelligence. A 9.5 months journey from preconception to birth*, Springer Nature. Our books have been acquired by top Universities such as MIT, Stanford, ETH, Imperial College London Library, National Health Institute – National Library of Medicine, Yale, Johns Hopkins, to name a few, proving that the results of our creative, independent thinking led to a better knowledge in the field, had a high impact on the state-of-the-art and placed the books of Romanian authors in the most prestigious libraries in the world. The team leader signed a contract for a new book with Springer Nature, which will be published in 2024. Besides these 3 monographs, the team members have published 7 *articles* in Journal Citation Reports Q1 indexed journals and requested 1 *patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of our research activity

The team's papers have been cited over past 5 years in 95 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>). In 2023, the team leader has been awarded the prize Top Performer in Healthcare, the Education and Research category, by Capital magazine (<https://www.capital.ro/tag/smaranda-belciug>), for her research in fetal health. Our team's research had a tremendous impact in the society, through unpaid TV (TVR, ProTV, Digi24) and newspaper appearances (g4media, adevarul.ro, stirilePprotv.ro, saptamanaonline.ro, repermedia.ro, reporter24.ro, stiripesurse.ro, evz.ro, capital.ro, stirimoldova.ro, gds.ro, ziare24online.ro, <https://tvr-craiova.ro/emisiuni-tvr-craiova/lumea-de-aproape-cum-ne-influenteaza-viata-inteligenta-artificiala/>). Through these media appearances, we were able to make science popular, and reach an audience broader than Academia.

C3. Funding

The team leader, Smaranda Belciug, has won in a national competition a 248 826.96 EUR research grant, "*Pattern Recognition and Anomaly detection in fetal morphology using Deep learning and Statistical learning*" (PARADISE), grant given by the Ministry of Research, Innovation, and Digitization. PARADISE focuses on early detection of fetal congenital anomalies (CA), which are the most encountered cause of fetal death, infant mortality, and morbidity. 7.9 million infants are born with CA yearly. Through an early detection of CA using AI, we can facilitate life-saving treatments and stop the progression of disabilities. The central feature of the project is the development of a specialized intelligent system that embeds a committee of Deep learning and Statistical learning methods, which work together in a competitive/collaborative way to increase the detection of CA. Moved by the topic of our research project, we have convinced a private company, Forvia Hella, to invest in an AI research laboratory at the University of Craiova, the sum of approximately 30 000 EUR. This laboratory acts like an incubator of ideas for young researchers (MSc and PhD students)-<https://www.presshub.ro/cum-creezi-un-laborator-de-inteligenta-artificiala-in-romania-exemplul-craiova-268422/>. The senior research, Dominic Iliescu, was responsible partner for another winning research grant of 125 000 EUR, "*Learning deep architectures for the Interpretation of Fetal Echocardiography*", (LIFE) grant given by the Ministry of Research, Innovation, and Digitization. LIFE's goal was to design a deep learning framework that can recognize the structure and behavior of the first trimester fetal heart. He has also won a 6000 EUR research grant "*Prediction of the delivery mode using clinical and ultrasound evaluation at term*", (ECOCLIN), financed by the University of Medicine and Pharmacy of Craiova. He attracted research funds from the private sector MEDGIN SRL, totaling 200 000 EUR, through the project "*Economic consolidation of MEDGIN SRL affected by COVID-19 pandemics*". Another researcher, Mircea Serbanescu, won a 10 300 EUR research grant "*Deep learning with transfer learning in pathology. Case study: classification of Basal Cell Carcinoma*" financed by the University of Medicine and Pharmacy of Craiova, and a 2000 EUR

research grant “*Computational methods for classifying prostate cancer*”, also financed by the University of Medicine and Pharmacy of Craiova.

The team members have been invited as Keynote Speaker at the 10th International KES Conference Innovation in Medicine and Healthcare, as invited speakers at the ROMEINF conference, World Federation for Medicine and Biology Congress, Fetal CNS evaluation and Fetal Neurology, 37th Congress of the Fetus as a patient Society, 5th Panhellenic congress of General Surgery, First International Study Group in Labor and Delivery Sonography Meeting, International Society of Pelviperineology Congress, 4th International Fetal Neurology Congress.

C4. Professional prestige

The team has collaborations with different personalities such as: Prof. Sally McClean, University of Ulster Prof. Lakhmi Jain, University of Technology Sydney, Prof. Andreas Holzinger, University of Vienna, Prof. CP Lim, Deaking University, Prof. George Tsihrintzi, University of Pireus, Prof. Peter Vilmann, Copenhagen University, Prof. Yhosimasa Masuda, Carnegie Mellon, University School of Computer Science, Keio University, Prof. Yen-Wei Chen, Ritshumikan University Japan, Prof. Abdel Badeeh Salem, Ain Shams Univeristy Cairo, Aris Antsaklis, University of Athens, Tulio Ghi, University of Parma, Christopf Lees, Imperial College.

The team leader acts as an Expert for the European Commission Horizon Europe Health Research Program, and Expert E-Cost, and as a Data scientist for the Molecular Tumor Board – Multidisciplinary Commission for Personalized Therapeutic Indication based on a Comprehensive Molecular Genetic Assessment. The team leader is Editor at the Journal of Biomedical Informatics (Q1), Senior Editor at the Journal BMC Medical Informatics and Decision Making (Q2), BMC Digital Health, Journal of Medical Artificial Intelligence, and International Journal of Computers in Healthcare. The 3 monographs published at prestigious publishing houses, Springer Nature, and Elsevier, have been internationally recognized by being acquired by top universities worldwide (MIT, Stanford, ETH, Imperial College London Library, National Health Institute – National Library of Medicine, Yale, Johns Hopkins, etc.). Two of these monographs have been awarded with the *Romanian Academy Award “Mihai Draganescu”*, in 2022. In 2023, the project leader has been awarded *the prize Top Performer in Healthcare, the Education and Research category*, by Capital magazine (<https://www.capital.ro/tag/smaranda-belciug>). A fourth monograph will be published in 2024 by Springer-Nature.

The senior members of our team are members of professional societies such as: the Royal Society of Medicine, KES International Organization, Research Network Human-Centered AI Lab (Holzinger Group), ISUOG Virtual World Congress and Courses, Forum Ginecologia, Forum Perinatologia, the Advanced Course of Ultrasound in Obstetrics and Gynecology - Ian Donald School of Ultrasound,

Fetus as a Patient. The team members have been involved in the organization of 23 international manifestation (see the team members' CVs).

C5. Organizational capacity

The team is composed on very young researchers, 7 of them being under 40 years old, including the team leader. The team leader and senior researcher have contributed to the training of PhD researchers: team member Renato Constantin Ivanescu (2022), team member Mircea Sebastian Serbanescu (second PhD 2019), Ruican Dan (2023), team member Nagy Rodica (2022), Dira Laurentiu (2022), and PhD students: Berbecaru Elena, Carbutaru Ovidiu, Dica Iuliana, Radoi Cristiana, Petria Anda, Pospai Maria, Tanasie Delia, Ramescu Catalina, Ciobanu Stefan, Negoianu Stefania, team member Nascu Andrei.

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.

Curriculum vitae Belciug Smaranda – team leader

C1. Research activity

In the past five years, Belciug Smaranda has focused her research in developing AI models that are able to diagnose different medical problems such as: fetal congenital anomalies, breast, colon, lung, ovarian, and brain. Her studies have been published in high quality papers in 4 Q1 journals and 2 Q2 journals, and in 12 Springer Nature chapters.

She authored 3 *monographs* which have been published by prestigious international publishing houses: *Intelligent Decision Support Systems - a journey to smarter healthcare*, Springer Nature, *Artificial Intelligence in Cancer: diagnostic to tailored treatment*, Elsevier Academic Press, and *Pregnancy with Artificial Intelligence. A 9.5 months journey from preconception to birth*, Springer Nature. Her books have been acquired by top Universities such as MIT, Stanford, ETH, Imperial College London Library, National Health Institute – National Library of Medicine, Yale, Johns Hopkins, to name a few, proving that the results of her creative, independent thinking led to a better knowledge in the field, had a high impact on the state-of-the-art and placed the books of Romanian authors in the most prestigious libraries in the world. She signed a contract for a new book with Springer Nature, which will be published in 2024. She and her team requested 1 *patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of the research activity

In the last 5 years, her studies have been cited in 46 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>). In 2023, she

has been awarded the prize Top Performer in Healthcare, the Education and Research category, by Capital magazine (<https://www.capital.ro/tag/smaranda-belciug>), for her research in fetal health. Her research had a tremendous impact in the society, through unpaid TV (TVR, ProTV, Digi24) and newspaper appearances (g4media, adevarul.ro, stirilePprotv.ro, saptamanaonline.ro, repermedia.ro, reporter24.ro, stiripesurse.ro, evz.ro, capital.ro, stirimoldova.ro, <https://tvr-craiova.ro/emisiuni-tvr-craiova/lumea-de-aproape-cum-ne-influenteaza-viata-inteligenta-artificiala/>). Through these media appearances, she was able to make science popular, and reach an audience broader than Academia.

C3. Funding

Smaranda Belciug has won in a national competition a 248 826.96 EUR research grant, “*Pattern Recognition and Anomaly detection in fetal morphology using Deep learning and Statistical learning*” (PARADISE), grant given by the Ministry of Research, Innovation, and Digitization. PARADISE focuses on early detection of fetal congenital anomalies (CA), which are the most encountered cause of fetal death, infant mortality, and morbidity. She has convinced a private company, Forvia Hella, to invest in an AI research laboratory at the University of Craiova, the sum of approximately 30 000 EUR. This laboratory acts like an incubator of ideas for young researchers (MSc and PhD students)- <https://www.presshub.ro/cum-creezi-un-laborator-de-inteligenta-artificiala-in-romania-exemplul-craiova-268422/>.

She has been invited as Keynote Speaker at the 10th International KES Conference Innovation in Medicine and Healthcare, and as invited speaker for the ROMEINF conference.

C4. Professional prestige

Smaranda Belciug has fruitful collaborations with different personalities in the Computer Science field such as: Prof. Sally McClean, University of Ulster Prof. Lakhmi Jain, University of Technology Sydney, Prof. Andreas Holzinger, University of Vienna, Prof. CP Lim, Deakin University, Prof. George Tsihrintzi, University of Piraeus, Prof. Peter Vilmann, Copenhagen University, Prof. Yhosimasa Masuda, Carnegie Mellon, University School of Computer Science, Keio University, Prof. Yen-Wei Chen, Ritsumeikan University Japan, Prof. Abdel Badeeh Salem, Ain Shams University Cairo.

She acts as an Expert for the European Commission Horizon Europe Health Research Program, and Expert E-Cost, and as a Data scientist for the Molecular Tumor Board – Multidisciplinary Commission for Personalized Therapeutic Indication based on a Comprehensive Molecular Genetic Assessment.

She is Editor at the Journal of Biomedical Informatics (Q1), Senior Editor at the Journal BMC Medical Informatics and Decision Making (Q2), BMC Digital Health, Journal of Medical Artificial Intelligence, and International Journal of Computers in Healthcare.

The 3 monographs published at prestigious publishing houses, Springer Nature, and Elsevier, have been internationally recognized by being acquired by top universities worldwide (MIT, Stanford, ETH, Imperial College London Library, National Health Institute – National Library of Medicine, Yale, Johns Hopkins, etc.). Two of these monographs have been awarded with the *Romanian Academy Award “Mihai Draganescu”*, in 2022. In 2023, Smaranda Belciug has been awarded *the prize Top Performer in Healthcare, the Education and Research category*, by Capital magazine (<https://www.capital.ro/tag/smaranda-belciug>). A fourth monograph will be published in 2024 by Springer-Nature.

She has been involved in the organization of the following international manifestation: KES Innovation in Medicine & Healthcare, International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, International Conference on Artificial Intelligence for Society, International Conference on Enterprise Information Systems, International Conference on Biomedical Informatics and Health Informatics, Intelligent Technologies and Applications, International Conference on Enterprise Information Systems, Cross-Domain Conference for Machine Learning and Knowledge Extraction, Artificial Intelligence in Medical Applications, Management and Information Technology, USAB Enriching Health Data for Research and Practice, ICIT Artificial Intelligence in e-learning and education, Intelligent Computing and Information Systems, IEEE Conference on Machine Learning and Applications, Global Health Challenges, Knowledge Computing in Bio-Medical and Digital Health, Knowledge Computing in Health Informatics.

C5. Organizational capacity

Smaranda Belciug has trained different young researchers, which obtained their PhD or enrolled in PhD programs, and now are part of her project's research team. All of them are under 35 years old. Renato Constantin Ivanescu (2022), team member Mircea Sebastian Serbanescu (2019), Nagy Rodica (2022), and PhD Student Nascu Andrei. She has obtained her habilitation title in Computer Science in 2023 and is now in the process of affiliating as a PhD supervisor at the Institute of Mathematics “Simion Stoilow” of the Romain Academy, part of the Doctoral School of Mathematics and Computer Science of the Romanian Academy.

Her cumulated AIS is 5.97.

Curriculum vitae Dominic Gabriel Iliescu – senior researcher

C1. Research activity

During the past 5 years, Dominic Gabriel Iliescu has focused his research in finding different means, including AI models, to diagnose and treat different obstetrics and gynecological medical problems: from different cancers, infections, uterine perforation, fetal congenital anomalies, to predicting the type of birth. His studies have been published in 4 Q1 journal papers, and 11 Q2 journal papers. He

is co-author of the monograph *Pregnancy with Artificial Intelligence. A 9.5 months journey from preconception to birth*, Springer Nature. His book have been acquired by top Universities such as MIT, Stanford, ETH, Imperial College London Library, National Health Institute – National Library of Medicine, Yale, Johns Hopkins, to name a few, proving that the results of his creative, independent thinking led to a better knowledge in the field, had a high impact on the state-of-the-art and placed the books of Romanian authors in the most prestigious libraries in the world. Together with the rest of the team, he has requested 1 patent for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of the research activity

Dominic Iliescu's studies have been cited over the past 5 years in 33 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>). His research had a tremendous impact in the society, through unpaid TV (TVR, ProTV, Digi24) and newspaper appearances (g4media, adevarul.ro, stirilePpotev.ro, saptamanaonline.ro, repermedia.ro, reporter24.ro, stiripesurse.ro, stirimoldova.ro, gds.ro, ziare24online.ro). Through these media appearances, we were able to make science popular, and reach and audience broader than Academia.

C3. Funding

Dominic Iliescu was responsible partner for a research grant of 125 000 EUR, "*Learning deep architectures for the Interpretation of Fetal Echocardiography*", (LIFE) grant given by the Ministry of Research, Innovation, and Digitization. LIFE's goal was to design a deep learning framework that can recognize the structure and behavior of the first trimester fetal heart. He has also won a 6000 EUR research grant "*Prediction of the delivery mode using clinical and ultrasound evaluation at term*", (ECOCLIN), financed by the University of Medicine and Pharmacy of Craiova. He attracted research funds from the private sector MEDGIN SRL, totaling 200 000 EUR, through the project "*Economic consolidation of MEDGIN SRL affected by COVID-19 pandemics*".

He has been invited as Speaker at the 18th World Federation for Medicine and Biology Congress, Fetal CNS evaluation and Fetal Neurology, 37th Congress of the Fetus as a patient Society, 5th Panhellenic congress of General Surgery, First International Study Group in Labor and Delivery Sonography Meeting, International Society of Pelviperineology Congress, 4th International Fetal Neurology Congress.

C4. Professional prestige

Dominic Iliescu has collaborations with different personalities such as Aris Antsaklis, (University of Athens), Tulio Ghi (University of Parma), Christopf Lees (Imperial College).

His monograph published at a prestigious publishing house, Springer Nature, has been internationally recognized by being acquired by top universities worldwide (MIT, Stanford, ETH, Imperial College London Library, National Health Institute – National Library of Medicine, Yale, Johns Hopkins, etc.). He is member of professional societies such as: the International Society of Ultrasound in Obstetrics and Gynecology, Hysteropedia, International Federation of Gynecology and Obstetrics. He has been involved in the organization of the following international manifestation: ISUOG Virtual World Congress and Courses, Forum Ginecologia, Forum Perinatologia, the Advanced Course of Ultrasound in Obstetrics and Gynecology - Ian Donald School of Ultrasound, Fetus as a Patient.

C5. Organizational capacity

Dominic Iliescu has trained different young researchers, which obtained their PhD: Ruican Dan (2023), team member Nagy Rodica (2022), Dira Laurentiu (2022), or enrolled in PhD program: Berbecaru Elena, Carbunaru Ovidiu, Dica Iuliana, Radoi Cristiana, Petria Anda, Pospai Maria, Tanasie Delia, Ramescu Catalina, Ciobanu Stefan, Negoianu Stefania, team member Nascu Andrei. His cumulated AIS is 3.297.

Curriculum vitae Mircea Sebastian Serbanescu - researcher

C1. Research activity

Mircea Serbanescu received his PhD in Computer Science in 2019, and habilitation in Medicine in 2023. During the past 5 years, Mircea Serbanescu has focused his research in developing AI models that are able to diagnose different types of cancers (breast, colorectal, liver, pancreas), to predict preeclampsia, fetal growth restriction, placenta-mediated disease, premature birth, and to predict surgical complications. His studies have been published in 1 Q1 and 8 Q2 journal papers.

Together with the rest of the team, he has requested *1 patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of the research activity

Mircea Serbanescu's studies have been cited over the past 5 years in 11 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>).

C3. Funding

Mircea Serbanescu won a 10 300 EUR research grant "*Deep learning with transfer learning in pathology. Case study: classification of Basal Cell Carcinoma*" financed by the University of Medicine and Pharmacy of Craiova, and a 2000 EUR research grant "*Computational methods for classifying prostate cancer*", also financed by the University of Medicine and Pharmacy of Craiova.

C4. Professional prestige

He has been involved in the organization of the following international manifestations: the European Society of Digital and Integrative Pathology Workshop, and the European Congress of Digital Pathology.

C5. Organizational capacity

Mircea Serbanescu has trained different young researchers, enrolled in PhD program: Manea Catalin and Plesea Razvan, both member of his research grant "*Computational methods for classifying prostate cancer*."

His cumulated AIS is 1.135.

Curriculum vitae Renato Constantin Ivanescu - young researcher

C1. Research activity

Renato Ivanescu received his PhD in Computer Science in 2023. During the past 5 years, as MS and PhD student, Renato Ivanescu has focused his research in developing AI models that are able to diagnose different types of cancers (breast, colorectal, liver, pancreas), to predict the type of birth, and to detect fetal congenital anomalies. His studies have been published in 1 Q1 journal paper and 1 Q2 journal paper.

Together with the rest of the team, he has requested *1 patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

His cumulated AIS is 0.597.

Curriculum vitae Maria Cristina Comanescu – young researcher

C1. Research activity

Cristina Comanescu received her PhD in Medicine in 2019. During the past 5 years, Cristina Comanescu focused her research in finding different means, including AI models, to diagnose and treat different obstetrics and gynecological medical problems: from different cancers, infections, uterine perforation, fetal congenital anomalies, to predicting the type of birth. Her studies have been published in 3 Q2 journal papers.

Together with the rest of the team, she has requested *1 patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of the research activity

Cristina Comanescu's studies have been cited over the past 5 years in 10 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>).

Her cumulated AIS is 0.405.

Curriculum vitae Anca Maria Istrate-Ofiteru – young researcher

C1. Research activity

Anca Istrate-Ofiteru received her PhD in Medicine in 2020. During the past 5 years, Anca Istrate-Ofiteru focused her research in finding different means, including AI models, to diagnose and treat different obstetrics and gynecological medical problems: from different cancers, infections, uterine perforation, fetal congenital anomalies, to predicting the type of birth. Her studies have been published in 1 Q1 and 4 Q2 journal papers.

Together with the rest of the team, she has requested *1 patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of the research activity

Anca Istrate-Ofiteru's studies have been cited over the past 5 years in 2 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>).

Her cumulated AIS is 0.853.

Curriculum vitae Rodica Daniela Nagy – young researcher

C1. Research activity

Rodica Nagy received her PhD in Medicine in 2023. During the past 5 years, Rodica Nagy focused her research in finding different means, including AI models, to diagnose and treat different obstetrics and gynecological medical problems: from different cancers, infections, uterine perforation, fetal congenital anomalies, to predicting the type of birth. Her studies have been published in 7 Q2 journal papers.

Together with the rest of the team, she has requested *1 patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

C2. Impact of our research activity

Rodica Nagy's studies have been cited over the past 5 years in 4 articles published in Journal Citation Reports Q1 indexed journals (for details see <https://www.ro.paradise-pce.ro/common-publications/>).

Her cumulated AIS is 0.865.

Curriculum vitae Andrei Gabriel Nascu – young researcher

C1. Research activity

Andrei Nascu enrolled in a PhD program in 2023. During the past 2 years, Andrei Nascu focused his research on developing AI models, to diagnose fetal congenital anomalies.

Together with the rest of the team, he has requested *1 patent* for a pattern recognition and anomaly detection AI system used in fetal morphology scans.

His cumulated AIS is 0.060.

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.

Web page with the teams' publications: <https://www.paradise-pce.ro/common-publications/>

In the tables below the grey lines indicate the team members' joint research.

Team leader Belciug Smaranda 4 Q1 papers as first author 2 Q2 paper as first author	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Smaranda Belciug , RC Ivanescu, MS Serbanescu, F Ispas, R. Nagy, CM Comanescu, AM Istrate-Ofiteru, DG Iliescu, Pattern Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, BMJ Open, (accepted 28.01.2024 – proof attached to the request)	Q2	1.037	0.129
Smaranda Belciug , Iliescu DG, Deep learning and Gaussian Mixture Modelling clustering mix. A new approach for fetal morphology view plane differentiation, <i>Journal of Biomedical Informatics</i> , 104402, https://doi.org/10.1016/j.jbi.2023.104402 , 2023	Q1	1.813	0.906
Smaranda Belciug , Learning deep neural networks' architectures using differential evolution. Case study: medical imaging processing, <i>Computers in Biology and Medicine</i> , 146, 105623, 2022 https://doi.org/10.1016/j.compbimed.2022.105623 , 2022	Q2	1.090	1.090

Dominic Iliescu, Smaranda Belciug (corresponding author) , Renato Ivanescu, Roxana Dragusin, Monica Cara, Laurentiu Dira, Prediction of labor outcome pilot study: evaluation of primiparous women at term, <i>American Journal of Obstetrics & Gynecology MFM</i> , 4 (6), 100711, https://doi.org/10.1016/j.ajogmf.2022.100711 , 2022	Q1	2.453	0.408
Smaranda Belciug , Parallel versus cascaded logistic regression trained single-hidden feedforward neural network for medical data, <i>Expert Systems with applications</i> , 170, 114538, https://doi.org/10.1016/j.eswa.2020.114538 , 2021	Q1	1.276	1.276
Smaranda Belciug , Logistic regression paradigm for training a single-hidden layer feedforward neural network. Application to gene expression datasets for cancer research. <i>Journal of Biomedical Informatics</i> , 102, https://doi.org/10.1016/j.jbi.2019.103373 , IF: 6.68, 2020	Q1	1.813	1.813
Smaranda Belciug , Florin Gorunescu, Learning a single-hidden layer feedforward neural network using rank correlation-based strategy with application to high dimensional gene expression and proteomic spectra datasets in cancer detection, <i>Journal of Biomedical Informatics</i> , 83, 159-166, doi: 10.1016/j.jbi.2018.06.003, IF: 3.457, July 2018	Q1	1.813	1.813
Renato Ivanescu, Smaranda Belciug , Andrei Nascu, Mircea Serbanescu, Dominic Iliescu, Evolutionary computation paradigm to determine deep neural networks architectures, <i>International Journal of Computers Communications & Control</i> , 17, 5, https://doi.org/10.15837/ijccc.2022.5.4886 , 2022	Q4	0.302	0.060
Laurentiu Mihai Dira, Stefania Tudorache, Panagiotis Antsaklis, George Daskalakis, Dagklis Themistoklis, Smaranda Belciug , Ruxandra Stoean, Marius Novac, Monica Laura Cara, Roxana Dragusin, Maria Florea, Ciprian Patru, Lucian Zorila, Rodica Nagy, Dan Ruican, Dominic Gabriel Iliescu, Sonographic Evaluation of the Mechanism of Active Labor (SonoLabor Study): observational study protocol	Q2	1.037	0.064

regarding the implementation of the sonopartogram, BMJ open, 11 (9), e047188, http://dx.doi.org/10.1136/bmjopen-2020-047188 , 2021			
Smaranda Belciug , Adrian Sandita, Hariton Costin, Silviu Bejinariu, Pericle Matei, Competitive/Collaborative Statistical Learning Framework for Forecasting intraday stock market prices: a case study, Studies in Informatics and Control, 30 (2), 43-54, 2021	Q4	0.204	0.040
Smaranda Belciug , Silviu Bejinariu, Hariton Costin, An artificial immune system approach for a multi-compartment queuing model for improving medical resources and inpatient bed occupancy in pandemics, Advances in electrical and computer engineering, 20 (3), 23-30, IF: 0.825, 2020	Q4	0.129	0.043
Mircea Serbanescu, Nicolae Manea, Liliana Streba, Smaranda Belciug , Emil Plesea, Ionica Pirici, Raluca Bungardean, Mihail Plesa, Automated gleason grading of prostate cancer using transfer learning from general-purpose deep-learning networks, Romanian Journal of Morphology and Embryology, doi: 10.47162/RJME.61.1.17, 2020	Q4	0.196	0.024
Dan Ruican, Ana-Maria Petrescu, Anda Ungureanu, Daniel Pirici, Marius Cristian Marinaş, Anca Maria Ofiteru, Mircea Serbanescu, Cristina Simionescu, Anne Marie Badiu, Gabriela-Camelia Roşu, Smaranda Belciug , Dominic Gabriel Iliescu, Virtual autopsy and confrimation of normal fetal heart anatomy in the first trimester using three-dimensional (3D) reconstruction of histological sections, Romanian Journal of Morphology and Embryology, 62 (1), 101-108, 10.47162/RJME.62.1.09, IF:0.833, 2021	Q4	0.196	0.016
Smaranda Belciug , Dominic Iliescu, Pregnancy with Artificial Intelligence. A 9,5 months journey from preconception to birth, Springer Nature, 2023, https://doi.org/10.1007/978-3-031-18154-2 , 978-3-031-18153-5	Book		
Smaranda Belciug , Iliescu, D.G. (2023). Artificial Intelligence in Obstetrics. In: Kwaśnicka, H., Jain, N., Markowska-Kaczmar, U., Lim, C.P., Jain, L.C. (eds) Advances in Smart	Book chapter		

Healthcare Paradigms and Applications. Intelligent Systems Reference Library, vol 244. Springer, Cham. https://doi.org/10.1007/978-3-031-37306-0_7			
Iliescu, D.G., Smaranda Belciug , Gheonea, I.A. (2023). Simulation and Learning Curve of the Traditional and Sonographic Pelvimetry. In: Cinnella, G., Beck, R., Malvasi, A. (eds) Practical Guide to Simulation in Delivery Room Emergencies. Springer, Cham. https://doi.org/10.1007/978-3-031-10067-3_16	Book chapter		
Smaranda Belciug , Nagy, R., Popa, S.D., Nascu, A.G., Iliescu, D.G. (2023). Designing Deep Learning Architectures with Neuroevolution. Study Case: Fetal Morphology Scan. In: Chen, YW., Tanaka, S., Howlett, R.J., Jain, L.C. (eds) Innovation in Medicine and Healthcare. KES InMed 2023. Smart Innovation, Systems and Technologies, vol 357. Springer, Singapore. https://doi.org/10.1007/978-981-99-3311-2_23	Book chapter		
Smaranda Belciug , R.C. Ivanescu, Non-parametric Rank Correlation Trained Single-Hidden Layer Feedforward Neural Networks for Medical Data, Intelligent Methods Systems and Applications in Computing, Communication and Control, vol. 1435, 195-207, Springer-Nature, 2023	Book chapter		
Smaranda Belciug , Artificial Intelligence in Cancer - Diagnostic to tailored treatment, Elsevier, Academic Press, 2020, https://www.elsevier.com/books/artificial-intelligence-in-cancer/belciug/978-0-12-820201-2 , ISBN: 9780128202012	Book		
Smaranda Belciug , (2023). An Introduction to Artificial Intelligence in Healthcare. In: Lim, CP., Vaidya, A., Chen, YW., Jain, T., Jain, L.C. (eds) Artificial Intelligence and Machine Learning for Healthcare. Intelligent Systems Reference Library, vol 228. Springer-Nature, Cham. https://doi.org/10.1007/978-3-031-11154-9_1	Book chapter		
Smaranda Belciug (2022). Artificial Neural Networks for Precision Medicine in Cancer Detection. In: Virvou, M., Tsihrintzis, G.A., Jain, L.C. (eds) Advances in Selected	Book chapter		

Artificial Intelligence Areas. Learning and Analytics in Intelligent Systems, vol 24. Springer-Nature, Cham. https://doi.org/10.1007/978-3-030-93052-3_11			
Smaranda Belciug , (2022). Learning Paradigms for Neural Networks for Automated Medical Diagnosis. In: Tsihrintzis, G.A., Virvou, M., Esposito, A., Jain, L.C. (eds) Advances in Assistive Technologies. Learning and Analytics in Intelligent Systems, vol 28. Springer-Nature, Cham. https://doi.org/10.1007/978-3-030-87132-1_7	Book chapter		
Smaranda Belciug (2022). A Statistical Analysis Handbook for Validating Artificial Intelligence Techniques Applied in Healthcare. In: Lim, CP., Chen, YW., Vaidya, A., Mahorkar, C., Jain, L.C. (eds) Handbook of Artificial Intelligence in Healthcare. Intelligent Systems Reference Library, vol 212. Springer-Nature, Cham. https://doi.org/10.1007/978-3-030-83620-7_3	Book chapter		
Smaranda Belciug , Florin Gorunescu, Intelligent Decision Support Systems—A Journey to Smarter Healthcare, DOI https://doi.org/10.1007/978-3-030-14354-1 , Springer Nature Switzerland AG 2020, Print ISBN 978-3-030-14353-4, Online ISBN 978-3-030-14354-1, 2019	Book		
Florin Gorunescu, Smaranda Belciug , Reference Module in Biomedical Sciences, Genetic Algorithms for Breast Cancer Diagnostics, Elsevier https://doi.org/10.1016/B978-0-12-801238-3.00000-3 , 2019.	Book chapter		
Smaranda Belciug , (2023). A Survival Analysis Guide in Oncology. In: Lim, C.P., Vaidya, A., Chen, YW., Jain, V., Jain, L.C. (eds) Artificial Intelligence and Machine Learning for Healthcare. Intelligent Systems Reference Library, vol 229. Springer-Nature, Cham. https://doi.org/10.1007/978-3-031-11170-9_2	Book chapter		
Smaranda Belciug , (2022). Bed-Occupancy Management and Hospital Planning: A Handbook. In: Shen, H., Zeng, Y., Li, L.,	Book chapter		

Wang, X. (eds) Regionalized Management of Medicine. Translational Bioinformatics, vol 17. Springer-Nature, Singapore. https://doi.org/10.1007/978-981-16-7893-6_10			
Nascu, A.G., Smaranda Belciug , Istrate-Ofiteru, AM., Iliescu, D.G. (2023). Probabilistic Framework Based on Deep Learning for Differentiating Ultrasound Movie View Planes. In: Holzinger, A., Kieseberg, P., Cabitza, F., Campagner, A., Tjoa, A.M., Weippl, E. (eds) Machine Learning and Knowledge Extraction. CD-MAKE 2023. Lecture Notes in Computer Science, vol 14065. Springer, Cham. https://doi.org/10.1007/978-3-031-40837-3_14	Book chapter		
Smaranda Belciug , Renato Constantin Ivănescu, Andrei Nascu, Mircea Sebastian Serbănescu, Cristina Comănescu, Dominic Gabriel Iliescu, Knowledge-based statistical data analysis for deep learning and voting classifiers merger, Procedia Computer Science, Volume 225, 2023, https://doi.org/10.1016/j.procs.2023.10.417	ISI proceedings		
			5.87

Team member Iliescu Dominic Gabriel	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Smaranda Belciug, RC Ivanescu, MS Serbanescu, F Ispas, R. Nagy, CM Comanescu, AM Istrate-Ofiteru, DG Iliescu , Pattern Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, BMJ Open, (accepted 28.01.2024)	Q2	1.037	0.129
Istrate-Ofițeru, A.-M.; Mogoantă, C.A.; Zorilă, G.-L.; Roșu, G.-C.; Drăgușin, R.C.; Berbecaru, E.-I.-A.; Zorilă, M.V.; Comănescu, C.M.; Mogoantă, S.-Ș.; Vaduva, C.-C.; Bratila, Iliescu Clinical Characteristics and Local Histopathological	Q2	1.028	0.085

Modulators of Endometriosis and Its Progression. <i>Int. J. Mol. Sci.</i> 2024 , <i>25</i> , 1789. https://doi.org/10.3390/ijms25031789			
Iliescu D , Petrita R, Teodorescu C, Olaru RA, Alexa AA and Petre I: Real-world performance and safety of vaginal ovules in reducing the vaginal symptoms associated with vulvovaginal atrophy and postmenopausal sexual dysfunction. <i>Biomed Rep</i> 20 : 35, 2024	Q2	0.825	0.137
Smaranda Belciug, Iliescu Dominic Gabriel , Deep learning and Gaussian Mixture Modelling clustering mix. A new approach for fetal morphology view plane differentiation, <i>Journal of Biomedical Informatics</i> , 104402, https://doi.org/10.1016/j.jbi.2023.104402 , 2023	Q1	1.813	0.906
Toader, DO, Olaru RA, Iliescu Dominic Gabriel , Petrita R., Calagea FL, Petre, I, Clinical Performance and safety of vaginal ovules in the local treatment of nonspecific vaginitis: a national, multicentric clinical investigation, <i>Clinical Therapeutics</i> , 45 , 9, 873-880, 10.1016/j.clinthera.2023.06.023, 2023.	Q2	0.870	0.145
Ungureanu A, Marcu, A, Patru CL, Ruican D, Nagy, R., Stoean, R., Stoean, C, Iliescu Dominic Gabriel , Learning deep architectures for the interpretation of first-trimester fetal echocardiography (LIFE) – a study protocol for developing an automated intelligent decision support system for early fetal echocardiography, <i>BMC Pregnancy and Childbirth</i> , 23 , 1, 10.1186/s12884-023-05825-w, 2023.	Q2	0.966	0.120
Iliescu Dominic Gabriel , Smaranda Belciug, Renato Ivanescu, Roxana Dragusin, Monica Cara, Laurentiu Dira, Prediction of labor outcome pilot study: evaluation of primiparous women at term, <i>American Journal of Obstetrics & Gynecology MFM</i> , 4 (6), 100711, https://doi.org/10.1016/j.ajogmf.2022.100711 , 2022	Q1	2.453	0.408

Renato Ivanescu, Smaranda Belciug, Andrei Nascu, Mircea Serbanescu, Iliescu Dominic Gabriel , Evolutionary computation paradigm to determine deep neural networks architectures, International Journal of Computers Communications & Control, 17, 5, https://doi.org/10.15837/ijccc.2022.5.4886 , 2022	Q4	0.302	0.060
Laurentiu Mihai Dira, Stefania Tudorache, Panagiotis Antsaklis, George Daskalakis, Dagklis Themistoklis, Smaranda Belciug, Ruxandra Stoean, Marius Novac, Monica Laura Cara, Roxana Dragusin, Maria Florea, Ciprian Patru, Lucian Zorila, Rodica Nagy, Dan Ruican, Iliescu Dominic Gabriel , Sonographic Evaluation of the Mechanism of Active Labor (SonoLabor Study): observational study protocol regarding the implementation of the sonopartogram, BMJ open, 11 (9), e047188, http://dx.doi.org/10.1136/bmjopen-2020-047188 , 2021	Q2	1.037	0.064
Ruican, D, Petrescu, AM, Istrate-Ofiteru A, Rosu GC, Zorila GL, Dira LM, Nagy R, Mogoanta, L, Pirici, D, Iliescu Dominic Gabriel , Confirmation of Heart malformations in fetuses in the first trimester using three dimensional histologic autopsy, Obstetrics and gynecology, 141, 6, 1209-1218, 10.1097/AOG.0000000000005169, 2023	Q1	3.120	0.312
Dan Ruican, Ana-Maria Petrescu, Anda Ungureanu, Daniel Pirici, Marius Cristian Marinaş, Anca Maria Ofiteru, Mircea Serbanescu, Cristina Simionescu, Anne Marie Badiu, Gabriela-Camelia Roşu, Smaranda Belciug, Iliescu Dominic Gabriel , Virtual autopsy and confirmation of normal fetal heart anatomy in the first trimester using three-dimensional (3D) reconstruction of histological sections, Romanin Journal of Morphology and Embryology, 62 (1), 101-108, 10.47162/RJME.62.1.09, IF:0.833, 2021	Q4	0.196	0.016
Țieranu, M.-L.; Dragoescu, N.A.; Zorilă, G.-L.; Istrate-Ofițeru, A.-M.; Rănescu, C.; Berbecaru, E.-I.-A.; Drăgușin, R.C.; Nagy, R.D.; Căpitănescu, R.G.; Iliescu Dominic Gabriel , Addressing Chronic Gynecological Diseases in the SARS-	Q3	0.521	0.051

CoV-2 Pandemic. <i>Medicina</i> 2023, 59, 802. https://doi.org/10.3390/medicina59040802			
Ungureanu, D.R.; Drăgușin, R.C.; Căpitănescu, R.G.; Zorilă, L.; Ofițeru, A.M.I.; Marinaș, C.; Pătru, C.L.; Comănescu, A.C.; Comănescu, M.C.; Sîrbu, O.C, Vrabie, MS, Dijmarescu, LA, Streata, I, Burada, F, Ioana, M, Dragoescu, AN, Iliescu Dominic Gabriel ; First Trimester Ultrasound Detection of Fetal Central Nervous System Anomalies. <i>Brain Sci.</i> 2023, 13, 118. https://doi.org/10.3390/brainsci13010118	Q3	0.770	0.045
Zorila, GL, Capitanescu RG, Dragusin, RC, Istrate-Ofiteru, AM, Bernad, E, Dobie, M, Bernad, S, Craina, M, Ceausu, I, Marinas, MC, Comanescu MC, Zorila MV, Drocas, I, Berbecaru, EIA, Iliescu Dominic Gabriel , Uterine Perforation as a Complication of the Intrauterine Procedures Causing Omentum Incarceration: A Review. <i>Diagnostics</i> 2023, 13, 331. https://doi.org/10.3390/diagnostics13020331	Q2	0.668	0.044
Dhombres, F, Morgan, P, Chaudhari, BP, Filges, I, Sparks, TN, Lapunzina, P, Roscioli, T, Agarwal, U, Aggarwal, S, Beneteau, C, Cacheiro, P, Carmody, LC, Corllardeau Franchon, S, el Ghosh, M, Giordanu, JL, Glad, R, Grinfelde, I, Iliescu Dominic Gabriel , Ladewig, MS, Munos, Torres, MC, Pollanzon, M, Radio, FC, Rodo, C, Silva, RG, Smedley, D, Prenatal phenotyping: A community effort to enhance the Human Phenotype Ontology, American J Med Genetics Part C – Seminars in medical genetics, 190, 2, 231-242, 10.1002/ajmg.c31989, 2022.	Q1	1.598	0.053
Dîră LM, Cara M-L, Drăgușin RC, Nagy RD, Iliescu Dominic Gabriel . The Value of Fetal Head Station as a Delivery Mode Predictor in Primiparous Women at Term before the Onset of Labor. <i>Journal of Clinical Medicine</i> . 2022; 11(12):3274. https://doi.org/10.3390/jcm11123274	Q2	1.220	0.244
Istrate-Ofițeru A-M, Berbecaru E-I-A, Zorilă G-L, Roșu G-C, Dîră LM, Comănescu CM, Drăgușin RC, Ruican D, Nagy RD, Iliescu Dominic Gabriel , et al. Specific Local Predictors That Reflect the Tropism of Endometriosis—A Multiple	Q2	1.028	0.102

Immunohistochemistry Technique. <i>International Journal of Molecular Sciences</i> . 2022; 23(10):5614. https://doi.org/10.3390/ijms23105614			
Nagy RD, Ruican D, Zorilă G-L, Istrate-Ofițeru A-M, Badiu AM, Iliescu Dominic Gabriel Feasibility of Fetal Portal Venous System Ultrasound Assessment at the FT Anomaly Scan. <i>Diagnostics</i> . 2022; 12(2):361. https://doi.org/10.3390/diagnostics12020361	Q2	0.668	0.111
Cara ML, Streata I, Buga AM, Iliescu Dominic Gabriel . Developmental Brain Asymmetry. The Good and the Bad Sides. <i>Symmetry</i> . 2022; 14(1):128. https://doi.org/10.3390/sym14010128	Q3	0.406	0.101
Istrate-Ofițeru A-M, Berbecaru E-I-A, Ruican D, Nagy RD, Rănescu C, Roșu G-C, Iovan L, Dîră LM, Zorilă G-L, Țieranu M-L, Iliescu Dominic Gabriel . The Influence of SARS-CoV-2 Pandemic in the Diagnosis and Treatment of Cervical Dysplasia. <i>Medicina</i> . 2021; 57(10):1101. https://doi.org/10.3390/medicina57101101	Q3	0.521	0.047
Miescu, M, Novac, M, Ruican, D, Nagy, RD, Iliescu Dominic Gabriel , Twelve weeks of reversed umbilical flow in the fetal growth restriction case associated with severe periconceptional maternal anemia, J Ultrasound in Medicine, 39, 9, 1873-1875, 10.1002/jum.15274, 2020	Q2	0.587	0.117
Smaranda Belciug, Iliescu Dominic Gabriel , Pregnancy with Artificial Intelligence. A 9,5 months journey from preconception to birth, Springer Nature, 2023, https://doi.org/10.1007/978-3-031-18154-2 , 978-3-031-18153-5	Book		
Belciug, S., Iliescu Dominic Gabriel (2023). Artificial Intelligence in Obstetrics. In: Kwaśnicka, H., Jain, N., Markowska-Kaczmar, U., Lim, C.P., Jain, L.C. (eds) <i>Advances in Smart Healthcare Paradigms and Applications</i> . Intelligent Systems Reference Library, vol 244. Springer, Cham. https://doi.org/10.1007/978-3-031-37306-0_7	Book chapter		

Iliescu Dominic Gabriel , Belciug, S., Gheonea, I, Practical Guide to Simulation in Delivery Room Emergencies, Editors Gilda Cinnella, Renata Beck and Antonio Malvasi, Springer Nature International Publishing, 2023	Book chapter		
Belciug, S., Nagy, R., Popa, S.D., Nascu, A.G., Iliescu Dominic Gabriel (2023). Designing Deep Learning Architectures with Neuroevolution. Study Case: Fetal Morphology Scan. In: Chen, YW., Tanaka, S., Howlett, R.J., Jain, L.C. (eds) Innovation in Medicine and Healthcare. KES InMed 2023. Smart Innovation, Systems and Technologies, vol 357. Springer, Singapore. https://doi.org/10.1007/978-981-99-3311-2_23	Book chapter		
Nascu, A.G., Belciug, S., Istrate-Ofiteru, AM., Iliescu Dominic Gabriel (2023). Probabilistic Framework Based on Deep Learning for Differentiating Ultrasound Movie View Planes. In: Holzinger, A., Kieseberg, P., Cabitza, F., Campagner, A., Tjoa, A.M., Weippl, E. (eds) Machine Learning and Knowledge Extraction. CD-MAKE 2023. Lecture Notes in Computer Science, vol 14065. Springer, Cham. https://doi.org/10.1007/978-3-031-40837-3_14			
Smaranda Belciug, Renato Constantin Ivănescu, Andrei Nascu, Mircea Sebastian Serbănescu, Cristina Comănescu, Dominic Gabriel Iliescu , Knowledge-based statistical data analysis for deep learning and voting classifiers merger, Procedia Computer Science, Volume 225, 2023, https://doi.org/10.1016/j.procs.2023.10.417 .	ISI proceedings		
			3.297

Team member Serbanescu Mircea Sebastian	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Smaranda Belciug, RC Ivanescu, MS Serbanescu , F Ispas, R. Nagy, CM Comanescu, AM Istrate-Ofiteru, DG Iliescu, Pattern	Q2	1.037	0.129

Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, BMJ Open, (accepted 28.01.2024)			
Cherciu Harbiyeli IF, Burtea DE, Serbanescu Mircea Sebastian , Nicolau CD, Saftoiu A. Implementation of a Customized Safety Checklist in Gastrointestinal Endoscopy and the Importance of Team Time Out—A Dual-Center Pilot Study. <i>Medicina</i> . 2023; 59(6):1160. https://doi.org/10.3390/medicina59061160	Q3	0.521	0.104
Savu E, Vasile L, Serbanescu Mircea Sebastian , Alexandru DO, Gheonea IA, Pirici D, Paitici S, Mogoanta SS. Clinicopathological Analysis of Complicated Colorectal Cancer: A Five-Year Retrospective Study from a Single Surgery Unit. <i>Diagnostics</i> . 2023; 13(12):2016. https://doi.org/10.3390/diagnostics13122016	Q2	0.668	0.083
Teică RV, Serbanescu Mircea Sebastian , Florescu LM, Gheonea IA. Tumor Area Highlighting Using T2WI, ADC Map, and DWI Sequence Fusion on bpMRI Images for Better Prostate Cancer Diagnosis. <i>Life</i> . 2023; 13(4):910. https://doi.org/10.3390/life13040910	Q2	0.600	0.150
Mămuleanu M, Urhuț CM, Săndulescu LD, Kamal C, Pătrașcu A-M, Ionescu AG, Serbanescu Mircea Sebastian , Streba CT. Deep Learning Algorithms in the Automatic Segmentation of Liver Lesions in Ultrasound Investigations. <i>Life</i> . 2022; 12(11):1877. https://doi.org/10.3390/life12111877	Q2	0.600	0.075
Harbiyeli IFC, Burtea DE, Ivan ET, Streață I, Nicoli ER, Uscatu D, Serbanescu Mircea Sebastian , Ioana M, Vilmann P, Săftoiu A. Assessing Putative Markers of Colorectal Cancer Stem Cells: From Colonoscopy to Gene Expression Profiling. <i>Diagnostics</i> . 2022; 12(10):2280. https://doi.org/10.3390/diagnostics12102280	Q2	0.668	0.066

Florescu LM, Streba CT, Serbanescu Mircea Sebastian , Mămuleanu M, Florescu DN, Teică RV, Nica RE, Gheonea IA. Federated Learning Approach with Pre-Trained Deep Learning Models for COVID-19 Detection from Unsegmented CT images. <i>Life</i> . 2022; 12(7):958. https://doi.org/10.3390/life12070958	Q2	0.600	0.125
Oancea C-N, Statie R-C, Gheonea D-I, Ciurea T, Serbanescu Mircea Sebastian , Streba C-T. IBD Monitor: Romanian National Mobile Application for Inflammatory Bowel Disease Personalized Treatment and Monitoring. <i>Diagnostics</i> . 2022; 12(6):1345. https://doi.org/10.3390/diagnostics12061345	Q2	0.668	0.111
Fraggetta F, L'Imperio V, Ameisen D, Carvalho R, Leh S, Kiehl T-R, Serbanescu Mircea Sebastian , Racocanu D, Della Mea V, Polonia A, et al. Best Practice Recommendations for the Implementation of a Digital Pathology Workflow in the Anatomic Pathology Laboratory by the European Society of Digital and Integrative Pathology (ESDIP). <i>Diagnostics</i> . 2021; 11(11):2167. https://doi.org/10.3390/diagnostics11112167	Q2	0.668	0.055
Nica, RE., Serbanescu Mircea Sebastian ., Florescu, LM. <i>et al</i> . Deep Learning: a Promising Method for Histological Class Prediction of Breast Tumors in Mammography. <i>J Digit Imaging</i> 34 , 1190–1198 (2021). https://doi.org/10.1007/s10278-021-00508-4	Q2	1.065	0.177
Renato Ivanescu, Smaranda Belciug, Andrei Nascu, Serbanescu Mircea Sebastian , Dominic Iliescu, Evolutionary computation paradigm to determine deep neural networks architectures, International Journal of Computers Communications & Control, 17, 5, https://doi.org/10.15837/ijccc.2022.5.4886 , 2022	Q4	0.302	0.060
Smaranda Belciug, Renato Constantin Ivănescu, Andrei Nascu, Serbanescu Mircea Sebastian , Cristina Comănescu, Dominic Gabriel Iliescu, Knowledge-based statistical data analysis for deep learning and voting classifiers merger,	ISI proceedings		

Procedia Computer Science, Volume 225, 2023, https://doi.org/10.1016/j.procs.2023.10.417 .			
			1,135

Team member Ivanescu Renato Constantin	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Smaranda Belciug, RC Ivanescu , MS Serbanescu, F Ispas, R. Nagy, CM Comanescu, AM Istrate-Ofiteru, DG Iliescu, Pattern Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, BMJ Open, (accepted 28.01.2024)	Q2	1.037	0.129
Dominic Iliescu, Smaranda Belciug, Ivanescu Renato Constantin , Roxana Dragusin, Monica Cara, Laurentiu Dira, Prediction of labor outcome pilot study: evaluation of primiparous women at term, <i>American Journal of Obstetrics & Gynecology MFM</i> , 4 (6), 100711, https://doi.org/10.1016/j.ajogmf.2022.100711 , 2022	Q1	2.453	0.408
Ivanescu Renato Constantin , Smaranda Belciug, Andrei Nascu, Mircea Serbanescu, Dominic Iliescu, Evolutionary computation paradigm to determine deep neural networks architectures, International Journal of Computers Communications & Control, 17, 5, https://doi.org/10.15837/ijccc.2022.5.4886 , 2022	Q4	0.302	0.060
Smaranda Belciug, Ivanescu Renato Constantin , Andrei Nascu, Mircea Sebastian Serbănescu, Cristina Comănescu, Dominic Gabriel Iliescu, Knowledge-based statistical data analysis for deep learning and voting classifiers merger, Procedia Computer Science, Volume 225, 2023, https://doi.org/10.1016/j.procs.2023.10.417 .	ISI proceedings		
			0,597

Team member Comanescu Maria Cristina	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Smaranda Belciug, RC Ivanescu, MS Serbanescu, F Ispas, R. Nagy, CM Comanescu , AM Istrate-Ofiteru, DG Iliescu, Pattern Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, BMJ Open, (accepted 28.01.2024)	Q2	1.037	0.129
Istrate-Ofiteru, A.-M.; Mogoantă, C.A.; Zorilă, G.-L.; Roșu, G.-C.; Drăgușin, R.C.; Berbecaru, E.-I.-A.; Zorilă, M.V.; Comănescu, C.M.; Mogoantă, S.-Ș.; Vaduva, C.-C.; Bratila, Iliescu Clinical Characteristics and Local Histopathological Modulators of Endometriosis and Its Progression. <i>Int. J. Mol. Sci.</i> 2024 , <i>25</i> , 1789. https://doi.org/10.3390/ijms25031789	Q2	1.028	0.085
Ungureanu, D.R.; Drăgușin, R.C.; Căpitănescu, R.G.; Zorilă, L.; Ofiteru, A.M.I.; Marinaș, C.; Pătru, C.L.; Comănescu, A.C.; Comanescu Maria Cristina .; Sîrbu, O.C, Vrabie, MS, Dijmarescu, LA, Streata, I, Burada, F, Ioana, M, Dragoescu, AN, Iliescu Dominic; First Trimester Ultrasound Detection of Fetal Central Nervous System Anomalies. <i>Brain Sci.</i> 2023 , <i>13</i> , 118. https://doi.org/10.3390/brainsci13010118	Q3	0.770	0.045
Zorila, GL, Capitanescu RG, Dragusin, RC, Istrate-Ofiteru, AM, Bernad, E, Dobie, M, Bernad, S, Craina, M, Ceausu, I, Marinas, MC, Comanescu Maria Cristina , Zorila MV, Drocas, I, Berbecaru, EIA, Iliescu Dominic, Uterine Perforation as a Complication of the Intrauterine Procedures Causing Omentum Incarceration: A Review. <i>Diagnostics</i> 2023 , <i>13</i> , 331. https://doi.org/10.3390/diagnostics13020331	Q2	0.668	0.044
Istrate-Ofiteru A-M, Berbecaru E-I-A, Zorilă G-L, Roșu G-C, Dîră LM, Comanescu Maria Cristina , Drăgușin RC, Ruican D, Nagy RD, Iliescu DG, et al. Specific Local Predictors That	Q2	1.028	0.102

Reflect the Tropism of Endometriosis—A Multiple Immunohistochemistry Technique. <i>International Journal of Molecular Sciences</i> . 2022; 23(10):5614. https://doi.org/10.3390/ijms23105614			
Smaranda Belciug, Renato Constantin Ivănescu, Andrei Nascu, Mircea Sebastian Serbănescu, Comanescu Maria Cristina , Dominic Gabriel Iliescu, Knowledge-based statistical data analysis for deep learning and voting classifiers merger, <i>Procedia Computer Science</i> , Volume 225, 2023, https://doi.org/10.1016/j.procs.2023.10.417 .	ISI proceedings		
			0.405

Team member Istrate-Ofiteru Anca Maria	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Smaranda Belciug, RC Ivanescu, MS Serbanescu, F Ispas, R. Nagy, CM Comanescu, AM Istrate-Ofiteru , DG Iliescu, Pattern Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, <i>BMJ Open</i> , (accepted 28.01.2024)	Q2	1.037	0.129
Istrate-Ofițeru, A.-M.; Mogoantă, C.A.; Zorilă, G.-L.; Roșu, G.-C.; Drăgușin, R.C.; Berbecaru, E.-I.-A.; Zorilă, M.V.; Comănescu, C.M.; Mogoantă, S.-Ș.; Vaduva, C.-C.; Bratila, Iliescu Clinical Characteristics and Local Histopathological Modulators of Endometriosis and Its Progression. <i>Int. J. Mol. Sci.</i> 2024 , 25, 1789. https://doi.org/10.3390/ijms25031789	Q2	1.028	0.085
Ruican, D, Petrescu, AM, Istrate-Ofiteru Anca Maria , Rosu GC, Zorila GL, Dira LM, Nagy R, Mogoanta, L, Pirici, D, Iliescu Dominic, Confirmation of Heart malformations in fetuses in the first trimester using three dimensional histologic	Q1	3.120	0.312

autopsy, Obstetrics and gynecology, 141, 6, 1209-1218, 10.1097/AOG.0000000000005169, 2023			
Dan Ruican, Ana-Maria Petrescu, Anda Ungureanu, Daniel Pirici, Marius Cristian Marinaş, Istrate-Ofiteru Anca Maria , Mircea Serbanescu, Cristina Simionescu, Anne Marie Badiu, Gabriela-Camelia Roşu, Smaranda Belciug, Dominic Gabriel Iliescu, Virtual autopsy and confrimation of normal fetal heart anatomy in the first trimester using three-dimensional (3D) reconstruction of histological sections,Romanin Journal of Morphology and Embryology, 62 (1), 101-108,10.47162/RJME.62.1.09, IF:0.833, 2021	Q4	0.196	0.016
Țieranu, M.-L.; Dragoescu, N.A.; Zorilă, G.-L.; Istrate-Ofițeru, Anca Maria ; Rănescu, C.; Berbecaru, E.-I.-A.; Drăgușin, R.C.; Nagy, R.D.; Căpitănescu, R.G.; Iliescu Dominic, Addressing Chronic Gynecological Diseases in the SARS-CoV-2 Pandemic. <i>Medicina</i> 2023, 59, 802. https://doi.org/10.3390/medicina59040802	Q3	0.521	0.051
Istrate-Ofiteru Anca Maria , Berbecaru E-I-A, Zorilă G-L, Roşu G-C, Dîră LM, Comănescu CM, Drăgușin RC, Ruican D, Nagy RD, Iliescu DG, et al. Specific Local Predictors That Reflect the Tropism of Endometriosis—A Multiple Immunohistochemistry Technique. <i>International Journal of Molecular Sciences</i> . 2022; 23(10):5614. https://doi.org/10.3390/ijms23105614	Q2	1.028	0.102
Nagy RD, Ruican D, Zorilă G-L, Istrate-Ofiteru Anca Maria , Badiu AM, Iliescu DG. Feasibility of Fetal Portal Venous System Ultrasound Assessment at the FT Anomaly Scan. <i>Diagnostics</i> . 2022; 12(2):361. https://doi.org/10.3390/diagnostics12020361	Q2	0.668	0.111
Istrate-Ofiteru Anca Maria , Berbecaru E-I-A, Ruican D, Nagy RD, Rănescu C, Roşu G-C, Iovan L, Dîră LM, Zorilă G-L, Țieranu M-L, Iliescu, DG. The Influence of SARS-CoV-2 Pandemic in the Diagnosis and Treatment of Cervical	Q3	0.521	0.047

Dysplasia. <i>Medicina</i> . 2021; 57(10):1101. https://doi.org/10.3390/medicina57101101			
Nascu, A.G., Belciug, S., Istrate-Ofiteru Anca Maria , Iliescu, D.G. (2023). Probabilistic Framework Based on Deep Learning for Differentiating Ultrasound Movie View Planes. In: Holzinger, A., Kieseberg, P., Cabitza, F., Campagner, A., Tjoa, A.M., Weippl, E. (eds) Machine Learning and Knowledge Extraction. CD-MAKE 2023. Lecture Notes in Computer Science, vol 14065. Springer, Cham. https://doi.org/10.1007/978-3-031-40837-3_14			
			0.853

Team member Nagy Rodica Daniela	Quartile	Journal AIS	$\frac{AIS_l}{n_l}$
Smaranda Belciug, RC Ivanescu, MS Serbanescu, F Ispas, R. Nagy , CM Comanescu, AM Istrate-Ofiteru, DG Iliescu, Pattern Recognition and Anomaly Detection in fetal morphology using Deep Learning and Statistical learning (PARADISE) - protocol for the development of an intelligent decision support system using fetal morphology ultrasound scan to detect fetal congenital anomaly detection, BMJ Open, (accepted 28.01.2024)	Q2	1.037	0.129
Țieranu, M.-L.; Dragoescu, N.A.; Zorilă, G.-L.; Istrate-Ofiteru, A.-M.; Rănescu, C.; Berbecaru, E.-I.-A.; Drăgușin, R.C.; Nagy Rodica Daniela , Căpitănescu, R.G.; Iliescu Dominic, Addressing Chronic Gynecological Diseases in the SARS-CoV-2 Pandemic. <i>Medicina</i> 2023, 59, 802. https://doi.org/10.3390/medicina59040802	Q3	0.521	0.051
Laurentiu Mihai Dira, Stefania Tudorache, Panagiotis Antsaklis, George Daskalakis, Dagklis Themistoklis, Smaranda Belciug, Ruxandra Stoean, Marius Novac, Monica Laura Cara, Roxana Dragusin, Maria Florea, Ciprian Patru, Lucian Zorila, Nagy Rodica Daniela , Dan Ruican, Dominic Gabriel Iliescu, Sonographic Evaluation of the Mechanism of Active Labor (SonoLabor Study): observational study protocol regarding the	Q2	1.037	0.064

implementation of the sonopartogram. <i>BMJ open</i> , 11 (9), e047188, http://dx.doi.org/10.1136/bmjopen-2020-047188 , 2021			
Dîră LM, Cara M-L, Drăgușin RC, Nagy Rodica Daniela , Iliescu Dominic. The Value of Fetal Head Station as a Delivery Mode Predictor in Primiparous Women at Term before the Onset of Labor. <i>Journal of Clinical Medicine</i> . 2022; 11(12):3274. https://doi.org/10.3390/jcm11123274	Q2	1.220	0.244
Istrate-Ofițeru A-M, Berbecaru E-I-A, Zorilă G-L, Roșu G-C, Dîră LM, Comănescu CM, Drăgușin RC, Ruican D, Nagy Rodica Daniela , Iliescu DG, et al. Specific Local Predictors That Reflect the Tropism of Endometriosis—A Multiple Immunohistochemistry Technique. <i>International Journal of Molecular Sciences</i> . 2022; 23(10):5614. https://doi.org/10.3390/ijms23105614	Q2	1.028	0.102
Nagy Rodica Daniela , Ruican D, Zorilă G-L, Istrate-Ofițeru A-M, Badiu AM, Iliescu DG. Feasibility of Fetal Portal Venous System Ultrasound Assessment at the FT Anomaly Scan. <i>Diagnostics</i> . 2022; 12(2):361. https://doi.org/10.3390/diagnostics12020361	Q2	0.668	0.111
Istrate-Ofițeru A-M, Berbecaru E-I-A, Ruican D, Nagy Rodica Daniela , Rănescu C, Roșu G-C, Iovan L, Dîră LM, Zorilă G-L, Țieranu M-L, Iliescu, DG. The Influence of SARS-CoV-2 Pandemic in the Diagnosis and Treatment of Cervical Dysplasia. <i>Medicina</i> . 2021; 57(10):1101. https://doi.org/10.3390/medicina57101101	Q3	0.521	0.047
Miescu, M, Novac, M, Ruican, D, Nagy Rodica Daniela , Iliescu, DG, Twelve weeks of reversed umbilical flow in the fetal growth restriction case associated with severe periconceptional maternal anemia, <i>J Ultrasound in Medicine</i> , 39, 9, 1873-1875, 10.1002/jum.15274, 2020	Q2	0.587	0.117
Nagy Rodica Daniela , Nagy, R., Popa, S.D., Nascu, A.G., Iliescu, D.G. (2023). Designing Deep Learning Architectures with Neuroevolution. Study Case: Fetal Morphology Scan. In: Chen, YW., Tanaka, S., Howlett, R.J., Jain, L.C. (eds)	Book chapter		

Innovation in Medicine and Healthcare. KES InMed 2023. Smart Innovation, Systems and Technologies, vol 357. Springer, Singapore. https://doi.org/10.1007/978-981-99-3311-2_23			
			0.865

Team member Nascu Andrei Gabriel	Quartile	Journal AIS	$\frac{AIS_i}{n_i}$
Renato Ivanescu, Smaranda Belciug, Nascu Andrei Gabriel , Mircea Serbanescu, Dominic Iliescu, Evolutionary computation paradigm to determine deep neural networks architectures, International Journal of Computers Communications & Control, 17, 5, https://doi.org/10.15837/ijccc.2022.5.4886 , 2022	Q4	0.302	0.060
Belciug, S., Nagy, R., Popa, S.D., Nascu Andrei Gabriel , Iliescu, D.G. (2023). Designing Deep Learning Architectures with Neuroevolution. Study Case: Fetal Morphology Scan. In: Chen, YW., Tanaka, S., Howlett, R.J., Jain, L.C. (eds) Innovation in Medicine and Healthcare. KES InMed 2023. Smart Innovation, Systems and Technologies, vol 357. Springer, Singapore. https://doi.org/10.1007/978-981-99-3311-2_23	Book chapter		
Nascu Andrei Gabriel , Belciug, S., Istrate-Ofiteru, AM., Iliescu, D.G. (2023). Probabilistic Framework Based on Deep Learning for Differentiating Ultrasound Movie View Planes. In: Holzinger, A., Kieseberg, P., Cabitza, F., Campagner, A., Tjoa, A.M., Weippl, E. (eds) Machine Learning and Knowledge Extraction. CD-MAKE 2023. Lecture Notes in Computer Science, vol 14065. Springer, Cham. https://doi.org/10.1007/978-3-031-40837-3_14	Book chapter		
Smaranda Belciug, Renato Constantin Ivănescu, Nascu Andrei Gabriel , Mircea Sebastian Serbănescu, Cristina Comănescu, Dominic Gabriel Iliescu,	ISI proceedings		

Knowledge-based statistical data analysis for deep learning and voting classifiers merger, Procedia Computer Science, Volume 225, 2023, https://doi.org/10.1016/j.procs.2023.10.417 .			
			0.060

Total score A = 13,082

Studies published in Q1 as principal author of co-author of the team = 7

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

PN-III-P4-PCE-2021-0057 - Recunoașterea formelor și detecția anomaliilor în morfologia fetală utilizând Deep learning și învățare statistică (11 members), May 2022- December 2024, 248.826.96 EUR - <https://www.paradise-pce.ro/>

408PED/2020, PN-III-P2-2.1-PED-2019-2227, Learning deep architectures for the Interpretation of Fetal Echocardiography, (LIFE – 8 members) – 2020 – 2022, 125 000 EUR.
<https://sites.google.com/view/ped-life/>

192/POC/411/AM „Consolidarea pozitiei pe piata a companiei MEDGIN SRL afectata de pandemia COVID-19”, 2023, 200 000 EUR.

26/531/3 / 31.05.2022 Predictia prognosticului tipului de nastere cu ajutorul evaluarii clinic si ecografice la termen (ECOCLIN), 2021, 6000 EUR.

26/24c/13.07.202, Deep learning with transfer learning in pathology. Case study: classification of Basal Cell Carcinoma, 2021, 10 300 EUR.

519/2019 Computational methods for classifying prostate cancer, 2019, 2000 EUR

10. Lista brevetelor depuse și a celor acceptate, dacă este cazul.

Request for the patent “Sistem de recunoaștere a formelor și detecția anomaliilor în morfologia fetală folosind inteligența artificială”, no. A/00431 from 07.08.2023

* Se redactează în limba engleză. Prin excepție, redactarea cererii de premiere se face în limba română pentru cererile din domenii cu specific românesc: limba și literatura română și dreptul românesc.