MINISTERUL CERCETĂRII, INOVĂRII ŞI DIGITALIZĂRII

Anexa nr. 1 – Cerere de premiere*

1. Candidat

Nume: Onchis M.

Nume anterioare (dacă este cazul): Nu e cazul

Prenume: Darian

Doctor din anul (se prezintă copie a diplomei de doctor sau echivalent): 2006

Poziția ocupată: Profesor Universitar Doctor Dublu Habilitat (Matematică în 2014 la Marseille, Informatică în 2022 la Timişoara)

Instituția: Universitatea de Vest din Timisoara

Telefon mobi[1]

Adresa de e-mail: c

2. Ediția "Gala Cercetării Româneşti": 2024

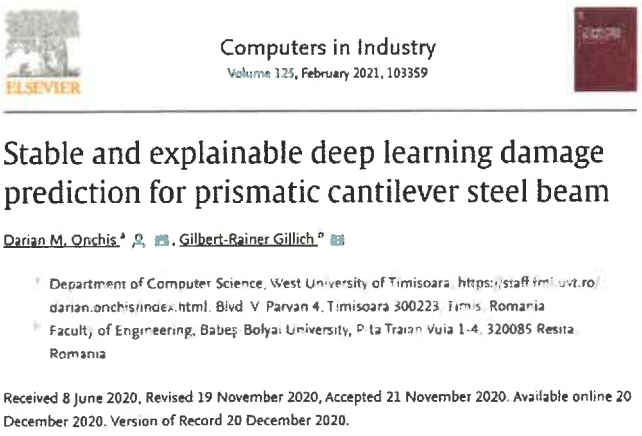
3. Premiul şi categoria pentru care aplică (individual sau echipă de cercetare): Matematică şi informatică – Premiul "Grigore Constantin Moisil", Individual.

4. Lider de echipă, dacă este cazul: Nu e cazul

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

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

6.1. Development and evaluation of approaches to explain decisions of machine learning models:



Computers in Industry
Volume 125, February 2021, 103359

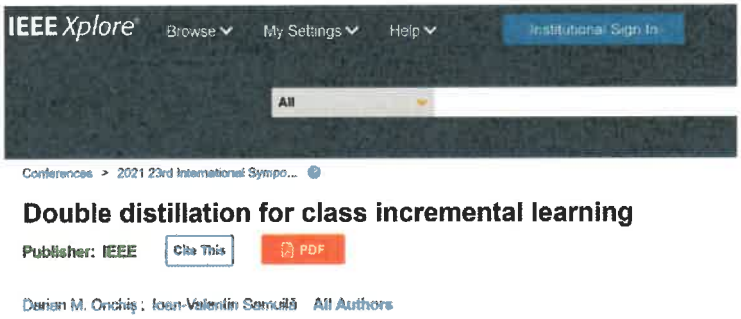
Stable and explainable deep learning damage prediction for prismatic cantilever steel beam

Darian M. Onchis[a], Gilbert-Rainer Gillich[b]

[a] Department of Computer Science, West University of Timisoara, https://staff.fmi.uvt.ro/darian.onchis/index.html, Blvd. V. Parvan 4, Timisoara 300223, Timis, Romania
[b] Faculty of Engineering, Babeş-Bolyai University, P-ta Traian Vuia 1-4, 320085 Resita, Romania

Received 8 June 2020, Revised 19 November 2020, Accepted 21 November 2020, Available online 20 December 2020, Version of Record 20 December 2020.

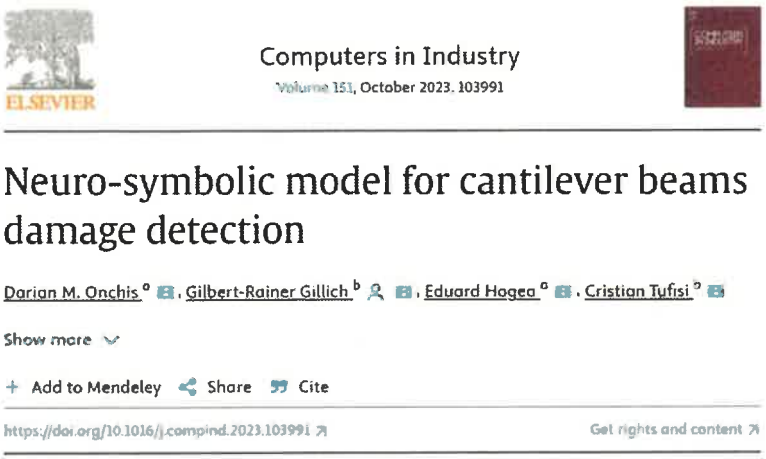
For obtaining the interpretable model, we correlate model agnostic global and local explanations with the use of the LIME and respectively the SHAP algorithm. Since the local explanations might be unstable, we introduce a compound stability-fit compensation index as a quality indicator in order to accept an explanation. This index is computed using both the condition number and the R2 fit indicator. The results were transferred to industry for improving the damage detection. Journal Impact Factor 11.245. **Dataset**: https://data.mendeley.com/datasets/rpvh2y2dhv/



We propose a double distillation incremental learning recipe for the class incremental learning scenario, starting from a proof of the classification limits of the relaxed SoftMax function and coupling it with a modified version of the iCaRL algorithm in which we have remodeled the last classification layer by varying the temperature parameter.

Development of from scratch of XAIBOT, a trilingual explainable AI Chatbot (Romanian, English and Serbian, an German version is currently in development).

6.2. Explainable AI systems by design:



ELSEVIER

Computers in Industry

Volume 151, October 2023, 103991

Neuro-symbolic model for cantilever beams damage detection

Darian M. Onchis [a], Gilbert-Rainer Gillich [b], Eduard Hogea [a], Cristian Tufisi [a]

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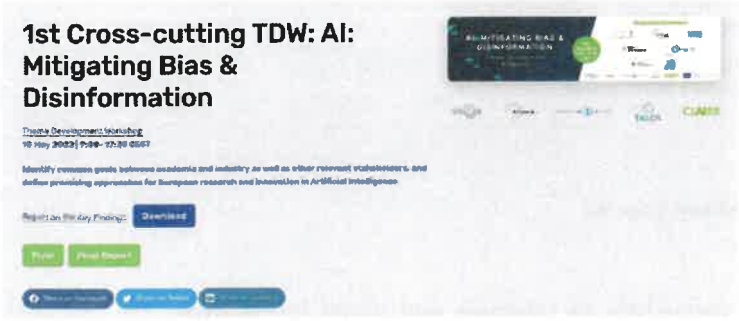
https://doi.org/10.1016/j.compind.2023.103991 Get rights and content

In this paper, we propose a neuro-symbolic model for the detection of damages in cantilever beams based on a novel cognitive architecture in which we join the processing power of convolutional networks with the interactive control offered by queries realized through the inclusion of real logic directly into the model. The hybrid discriminative model is introduced under the name Logic Convolutional Neural Regressor and it is tested on a dataset of values of the relative natural frequency shifts of cantilever beams derived from an original mathematical relation. While the obtained results preserve all the predictive capabilities of deep learning models, the usage of three distances as predicates for satisfiability, makes the system more trustworthy and scalable for practical applications. Extensive numerical and laboratory experiments were performed, and they all demonstrated the superiority of the hybrid approach, which can open a new path for solving the damage detection problem.

6.3. Algorithmic bias and algorithmic discrimination



Invited panelist at the Breakout session: Explainability aspects in AI for disinformation, organized during the EU-workshop AI: Mitigating Bias & Disinformation

Dataset Knowledge Transfer for Class-Incremental Learning without Memory

Habib Slim[1]* Eden Belouadah[1,2]* Adrian Popescu[1] Darian Onchis[3]
[1] Université Paris-Saclay, CEA, List, F-91120, Palaiseau, France
[2] IMT Atlantique, Lab-STICC, team RAMBO, UMR CNRS 6285, F-29328, Brest, France
[3] West University of Timisoara, Timisoara, Romania
habib.slim@grenoble-inp.org, {eden.belouadah, adrian.popescu}@cea.fr, darian.onchis@e-uvt.ro

Article accepted at IEEE/CVF Winter Conference on Applications of Computer Vision (WACV22), the premier international computer vision event. We introduce a two-step learning process which allows the transfer of bias correction parameters between reference and target datasets. Bias correction is first optimized offline on reference datasets which have an associated validation memory. The obtained correction parameters are then transferred to target datasets, for which no memory is available. The second contribution is to introduce a finer modeling of bias correction by learning its parameters per incremental state instead of the usual past vs. new class modeling. The proposed dataset knowledge transfer is applicable to any incremental method.

6.4. Effects of the interpretability of AI systems on their acceptance, use, and adoption

Open Access Article

Explainable Machine Learning Solution for Observing Optimal Surgery Timings in Thoracic Cancer Diagnosis

by Gabriel V. Cozma [1] ✉, Darian Onchis [2,*] ✉, Codruta Istin [3,*] ✉ and Ioan Adrian Petrache [1] ✉

[1] Department of Surgical Semiology I and Thoracic Surgery, "Victor Babes" University of Medicine and Pharmacy of Timisoara, 300041 Timisoara, Romania
[2] Department of Computer Science, West University of Timisoara, 300223 Timisoara, Romania
[3] Computer and Information Technology Department, Politehnica University of Timisoara, 300006 Timisoara, Romania
* Authors to whom correspondence should be addressed

Appl. Sci. 2022, *12*(13), 6506; https://doi.org/10.3390/app12136506
Received: 25 May 2022 / Revised: 21 June 2022 / Accepted: 22 June 2022 / Published: 27 June 2022
(This article belongs to the Section Applied Biosciences and Bioengineering)

In this paper, we introduce an AI-based procedure to estimate and assist in choosing the optimal surgery timing, in the case of a thoracic cancer diagnostic, based on an explainable machine learning model trained on a knowledge base. The explainable AI-system is implemented in practice at the Thoracic Surgery Clinic from the Emergency Municipal Clinical Hospital Timisoara, the only such specialized clinic in the Banat region of Romania, serving a population of about 1.5 million people,

see https://www.spitalul-municipal-timisoara.ro/. For reference on how the system works please contact the Head of the Clinic, Dr. Gabriel Cozma (cozma.gabriel@umft.ro, drgabrielcozma@gmail.com)

6.5. Application-oriented issues with a focus on value creation in and between companies and organizations:

Head of engineering and software architect for the UNITA Virtual Campus, based at the University of Pau and Pays d'Adour in France (www.uppa.fr). UNITA is an alliance of six comprehensive research universities from five countries with different sizes and trajectories gathering together more than 160 000 students and 13 000 staff members. From West to East: Universidade de Beira Interior, Universidad de Zaragoza, Université de Pau et des Pays de l'Adour, Université Savoie Mont Blanc, Università di Torino, and Universitatea de Vest din Timisoara. According to European Commission website, the main goal of the UNITA alliance is to "to build a fully-fledged European inter-university campus based on excellence in teaching and learning, research and innovation, and on civic engagement", see https://education.ec.europa.eu/european-universities-factsheets.

Coordinator of TRAIN, Timisoara Research in Artificial Intelligence Network. The network has been publicly launched in 2021, in the presence of Professor Bernhard Schölkopf, director at the Max Planck Institute for Intelligent Systems in Tübingen, Germany. Another special guest was Professor Pedro Real, from the University of Seville, Spain. The conference was attended also by the representatives of major local IT companies: Mr. Valentin Mureșan (personal advisor to the mayor of Timișoara, SmartCity and Digitalization, manager of Intel Romania), Mr. Sabin Totorean (Global Enterprise & Public Sector Sales Director, Nokia), Mr. Sorin Maxim (General Manager of ADR West), Ms. Cătălina Dodu (Global CyberSecurity Services PreSales Director, Atos IT Solutions and Services), Mr. Raul Horhat (General Manager, Cmed) and Mr. Ștefan Iarca (co-founder of XVision). They all addressed supportive messages regarding the future of the AI Hub

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.

PERSONAL INFORMATION

Family name, First name: ONCHIS – MOACA, Darian
Researcher unique identifiers: M-2821-2013, orcid.org/0000-0003-4846-3752
Date of birth: 14.08.1979
URL for web site: https://staff.fmi.uvt.ro/~darian.onchis/index.html
Member of ELLIS Society (ELLIS - the European Laboratory for Learning and Intelligent Systems, ellis.eu)

- **EDUCATION**

2022 **Habilitation in Computer Science (Priv.-Doz.,Dr. habil.)**
West University of Timisoara, Romania

2014 **Habilitation in Mathematics (Priv.-Doz.,Dr. habil.)**
Aix-Marseille University, France

2006 **PhD**
Computational and functional methods in signals theory
Faculty of Mathematics and Computer Science/ West University of Timisoara/ Romania
Higher Technical School of Informatics Engineering / University of Seville/Spain

2004 **Master**

Master of Science in Informatics (***Valedictorian***). Department of Computer Science/

West University of Timisoara, Romania.

2002 **Bachelor**

Bachelor degree in Mathematics and Informatics (***National Merit Scholarship***).
Faculty of Mathematics and Computer Science/ West University of Timisoara/ Romania

- **RECENT POSITIONS**

2015 - 2018 Senior researcher and FWF Project Leader

University of Vienna, Austria

Ongoing Full Professor of Computer Science and Machine Learning (faculty position)

Department of Computer Science, **West University of Timisoara**, Romania

Ongoing Head of IT Engineering for UNITA, **University of Pau**, France

- **PREVIOUS POSITIONS**

2014 – 2015 Full Professor of Industrial Informatics (faculty position)
Department of Industrial Informatics, Eftimie Murgu University, Romania.

2014 Senior researcher in the EU Project HOST (High Performance Computing Centre)
West University of Timisoara, Romania.

2007 - 2014 University Lecturer (faculty position)
Department of Industrial Informatics, Eftimie Murgu University, Romania

2007 - 2013 Post-Doc Researcher
NuHAG, Computational Science Platform, University of Vienna, Austria

2003 - 2007 University Assistant
Department of Economics, Eftimie Murgu University, Romania.

2001 - 2003 Software Engineering position
SiemensVDO, Algorithms group, Timisoara, Romania.

- **FELLOWSHIPS**

2013, 2014 Postdoctoral fellowships (3 months each year)
Centre de Mathematiques et Informatique, Aix-Marseille University, France.

2005 – 2012 5 Mobility fellowships awarded by EU competition (1 and up to 3 months for 1 stage)
HPC-Europa Project (High Performance Computing in EUROPE)

1998 – 2004 Merit scholarship, Faculty of Mathematics and Computer science, West University of Timisoara, Romania

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL**

2017 - 2018 1 postdoc student at Faculty of Mathematics, University of Vienna, Austria

2015 - 2018 1 PhD student at Faculty of Mathematics, University of Vienna, Austria

2017 - 2018 4 Master students in Computer Science, West University of Timisoara, Romania

2018 - 2023 15 Master students in Computer Science, West University of Timisoara, Romania

2022 - 2026 3 PhD students at Department of Computer Science, West University of Timisoara

- **TEACHING ACTIVITIES**

2014 - 2016 Graphs theory and combinatorics, Algorithmic Design, Visual programming,

Databases,

Ongoing Machine learning, Fundamentals of Artificial Intelligence, Intelligent Systems, Bioinformatics.

- **ORGANISATION OF SCIENTIFIC MEETINGS**

2017 Chair of DRILLS (Data Representation in Learning, Living Systems and Signals), international IEEE indexed workshop, 25 participants, Timisoara, Romania

2017 Organiser and Main Speaker at the Training and Research week on Topological and Harmonic Algorithms for Bio-Images and Sequences, University of Seville, Spain, 15 participants

2014 Chair of the 5th CTIC (Computational Topology in Image Context), international workshop series, 50 participants, Timisoara, Romania,

2013 Organizer of the special session M-FRAME CONSTRUCTIONS at the 9th ISAAC congress, Cracow, Poland, 35 participants

2011 Organisation of the first international summer school: A MATLAB approach to Computational Harmonic Analysis, Marburg, Germany, 25 participants.

- **COMMISSIONS OF TRUST**

Technical program committee: CAIP 2011 – 2019 (Computer Analysis of Images and Patterns), EUSIPCO 2010 – 2018 (European Signal Processing Conference), CTIC 2014 – 2019 (Computational Topology in Image Context), SYNASC 2014 – 2017 (Symbolic and Numeric Algorithms for Scientific Computing).

Reviewer Work: Pattern Recognition Letters; Advances in Computational Mathematics, Signal Processing; IEEE Transactions on Signal Processing; Applied and Computational Mathematics; International Journal of Wavelets, Multiresolution and Information Processing (IJWMIP); IEEE Instrumentation and Measurements; IEEE Signal Processing Letters; Journal of Mathematical Imaging and Vision; International Referee for the NSF (National Science Foundation) of Bulgaria, for the 2008 and 2009 research calls.

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2017 - ongoing FOCM – Foundations of Computational Mathematics
2011 - ongoing TOPREC – Topological pattern analysis and recognition
2010 - ongoing EURASIP – European Association of Signal Processing

- **MAJOR COLLABORATIONS**

Dr. Adrian Popescu, CEA LIST Laboratory, Paris, France

Prof. Bruno Torresani, Centre de Matematiques et Informatiques, Aix-Marseille University, France

Prof. Fernando Diaz del Rio, Higher Technical School of Informatics Engineering, University of Seville, Spain

Prof. Pedro Real, Higher Technical School of Informatics Engineering, University of Seville, Spain

- **RECENT SCIENTIFIC ACTIVITIES**

2019 Guest editor of a virtual special issue related to Machine Learning in Digital Imaging in the Elsevier journal Pattern Recognition Letters, Impact Factor 1.952

2018 Guest editor of the special issue on Deep Learning for Diagnosis and Prognosis in Manufacturing in the Elsevier journal Computers in Industry, Impact Factor 2.850

2017 CREAM Toolbox v1.0 was released. It includes MATLAB code in support of the research

2017 COST Action Proposal OC-2016-2-21631 "Tomography Across Modalities and Scales", about the emerging field of multi-scale, multi-modal techniques for tomographic imaging, was submitted to the COST Open Call OC-2016-2.

2016 Guest editor of the special issue Geometric, Topological and Harmonic Trends to Image Processing in the Elsevier journal Pattern Recognition Letters, Impact Factor 1.952

2014 Managing guest editor of the special issue Localization, diversity and uncertainty in signal representations in the Springer journal Advances in Computational Mathematics, Impact Factor 1.31

2014 Managing guest editor of the special issue Time-frequency methods for condition based maintenance and modal analysis" in the Elsevier journal Signal Processing, Impact Factor 3.110

ANIS prize for MACHINE LEARNING teaching in 2018 (ANIS is the IT-Industry Association)

Research Award, Red prize (highest category) for the article with sole author Darian M. Onchis, entitled 'Increasing the image resolution using multi-windows spline-type spaces', published in Signal Processing Vol.103 (2014) p.195--200. Awarded by UEFISCDI, Romanian National Institutionfor financing higher education, research, development and innovation.

Research Award, yellow prize (second category) for the paper 'A parallel Homological Spanning Forest framework for 2D topological image analysis'co-authors Fernando Diaz-del-Rio, Pedro Real, Darian M. Onchis. Awarded by the UEFISCDI, Romanian National Institution for financing higher education, research, development and innovation.

National Merit Scholarship for the whole duration of my Bachelor and Master studies (1998-2004). Graduation of the Master in Informatics program **valedictorian as first in my class** (2004).

I state that I meet at least 3 of the 6 mentioned indicators, namely:

1. Works as main author or co-author classified with the article document type, published in Web of Science JCR quartile Q1 indexed journals - minimum 7: Attached is the list of 9 papers indexed Web of Science JCR quartile Q1.

2. national and international research projects, won through competition, with a value of at least 100,000 euros each and a team of at least 3 members, as director/project leader – at least 1: Project Director at the University of Vienna, Austria, worth €332,084, with 3 international project participations. Project selected through competition by FWF, Austrian Science Fund.

3. the quality of researcher/invited teaching staff at prestigious universities abroad – minimum 1; Associate teaching staff at the University of Seville (rank 174 in Mathematics), Spain, Master's program in Ingeniería Biomédica y Salud Digital, for the years 2019/2020, 2020-2021, according to the attached document.

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.

Scopus EXPORT DATE:29 Dec 2023

Onchis, D.M., Gillich, G.-R., Hogea, E., Tufisi, C.

Neuro-symbolic model for cantilever beams damage detection

(2023) 151, art. no. 103991, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85165532620&doi=10.1016%2fj.compind.2023.103991&partnerID=40&md5=c551aab50f8ce46689b29e5500a70cee

Costi, F., Onchis, D.M., Istin, C., Cozma, G.V.

Explainability-Enhanced Neural Network for Thoracic Diagnosis Improvement

(2023) 14184 LNCS, pp. 35-44.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85174445171&doi=10.1007%2f978-3-031-44237-7_4&partnerID=40&md5=4f138b870720c07635dc00f221ed1b5e

Onchis, D., Istin, C., Hogea, E.

A Neuro-Symbolic Classifier with Optimized Satisfiability for Monitoring Security Alerts in Network Traffic

(2022) 12 (22), art. no. 11502, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85142537595&doi=10.3390%2fapp122211502&partnerID=40&md5=373374806b7169cb697cf7e309886920

Cozma, G.V., Onchis, D., Istin, C., Petrache, I.A.

Explainable Machine Learning Solution for Observing Optimal Surgery Timings in Thoracic Cancer Diagnosis

(2022) 12 (13), art. no. 6506, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85133495630&doi=10.3390%2fapp12136506&partnerID=40&md5=6f7b4e63533ce0b7968fe2728c75a2ba

Secasan, C.C., Onchis, D., Bardan, R., Cumpanas, A., Novacescu, D., Botoca, C., Dema, A., Sporea, I.

Artificial Intelligence System for Predicting Prostate Cancer Lesions from Shear Wave Elastography Measurements

(2022) 29 (6), pp. 4212-4223.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85132158363&doi=10.3390%2fcurroncol29060336&partnerID=40&md5=572dd0c3f6b5fe8efb4c0e52ea162e94

Onchis, D.M., Istin, C., Eduard-Florin, H.

Advantages of a neuro-symbolic solution for monitoring IT infrastructures alerts

(2022) pp. 189-194.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85163084021&doi=10.1109%2fSYNASC57785.2022.00036&partnerID=40&md5=400192281a2b542d7092bfffad9548de

Slim, H., Belouadah, E., Popescu, A., Onchis, D.

Dataset Knowledge Transfer for Class-Incremental Learning without Memory

(2022) pp. 3311-3320.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85126138133&doi=10.1109%2fWACV51458.2022.00337&partnerID=40&md5=405ae2dc57c1002e2c2d7b6533e3a5cb

Idoraşi, L., Crăciunescu, E.L., Stan, A.T., Sinescu, C., Chiş, A.C., Onchiş-Moacă, D., Romînu, M., Negruţiu, M.L.

Morphological aspects in remineralizing potential of Silver Diamine Fluoride

(2021) 62 (2), pp. 537-543.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85122961187&doi=10.47162%2fRJME.62.2.20&partnerID=40&md5=ee3b385cd161be211b32560114a2167e

Onchis, D.M., Gillich, G.-R.

Stable and explainable deep learning damage prediction for prismatic cantilever steel beam

(2021) 125, art. no. 103359, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85098462399&doi=10.1016%2fj.compind.2020.103359&partnerID=40&md5=61ec716f67a62ddd08b31b105338408f

Onchis, D.M., Samuila, I.-V.

Double distillation for class incremental learning

(2021) pp. 182-185.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85127047853&doi=10.1109%2fSYNASC54541.2021.00039&partnerID=40&md5=1cd795653be18ac0f719b3bcdcc12283

Onchis, D.M.

Should i trust a deep learning condition monitoring prediction?

(2020) art. no. 9357073, pp. 182-186.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85102392405&doi=10.1109%2fSYNASC51798.2020.00038&partnerID=40&md5=7f040a2d8837cce6630116eae5129179

Onchis, D.M., Istin, C., Tudoran, C., Tudoran, M., Real, P.

Timely-automatic procedure for estimating the endocardial limits of the left ventricle assessed echocardiographically in clinical practice

(2020) 10 (1), art. no. 40, .

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85078398279&doi=10.3390%2fdiagnostics10010040&partnerID=40&md5=e5f3951b8d2447937e1ed48cfe05f66c

Yan, R., Chen, X., Wang, P., Onchis, D.M.

Deep learning for fault diagnosis and prognosis in manufacturing systems

(2019) 110, pp. 1-2.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85065566237&doi=10.1016%2fj.compind.2019.05.002&partnerID=40&md5=643835d8f675c7bf6267e474d5645b91

Onchis, H.D.M.

A deep learning approach to condition monitoring of cantilever beams via time-frequency extended signatures

(2019) 105, pp. 177-181.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058816650&doi=10.1016%2fj.compind.2018.12.005&partnerID=40&md5=691b2da130d60464c64d4bb1f63e8097

Onchis, D.M., Istin, C., Real, P.

Refined Deep Learning for Digital Objects Recognition via Betti Invariants

(2019) 11678 LNCS, pp. 613-621.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85072871519&doi=10.1007%2f978-3-030-29888-3_50&partnerID=40&md5=50509bc3ad5573bca8ba9cd9b7b678d2

Real, P., Molina-Abril, H., Díaz-del-Río, F., Blanco-Trejo, S., Onchis, D.

Enhanced Parallel Generation of Tree Structures for the Recognition of 3D Images

(2019) 11524 LNCS, pp. 292-301.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85068344479&doi=10.1007%2f978-3-030-21077-9_27&partnerID=40&md5=94c7afa6cafdf488f766b9e3501c0bd3

Real, P., Molina-Abril, H., Díaz del Río, F., Onchis, D.

Generating second order (co)homological information within at-model context

(2019) 11382 LNCS, pp. 68-81.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85061101691&doi=10.1007%2f978-3-030-10828-1_6&partnerID=40&md5=f4a6d80092795e468aa841545e29c549

Onchis, D.M., Zappalà, S., Real, P., Istin, C.

Numerical stability of spline-based Gabor-like systems

(2018) 2018-September, art. no. 8552927, pp. 1337-1341.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85059805976&doi=10.23919%2fEUSIPCO.2018.8552927&partnerID=40&md5=df63e33a49b8e951dc2f3a4ccd4ff31e

Onchis, D.M.

Detecting proteine coding regions using a customized multi-scales splines construction

(2018) art. no. 8531318, pp. 397-400.

https://www.scopus.com/inward/record.uri?eid=2-s2.0-85058304256&doi=10.1109%2fSYNASC.2017.00072&partnerID=40&md5=b5b41a3633d774dda517639a05c17ab6

Onchis, D.M., Zappala, S.

Constructive realizable multi-resolution wavelet-like systems based on multi-windows spline-type spaces

(2018) art. no. 8531273, pp. 99-104.

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Onchis, D.M., Zappala, S.

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9. Lista proiectelor de cercetare câştigate de candidat şi valoarea acestora.

Principal investigator in 5 international research projects selected by competition and after peer-review.

Major research project as Principal Investigator

Project Title	*Funding source*	*Amount (Euros)*	*Period*	*Role of the applicatn*
Constructive frames - based realizations in time-frequency analysis	FWF Austrian Science Fund @ University of Vienna	332.000	06/2015-09/2018	Principal Investigator

(01/2005 - 03/2005) Research director for the project "Parallel Wavelet Transform", research project selected by the HPC-Europa selection panel (Pan European research infrastructure on high performance computing funded by the European Community under contract No RII3-CT-2003-506079) at CINECA supercomputing laboratories, Bologna, Italy, Amount: 2.000 euros.

(07/2005 - 09/2005) Research director for the project "Nonlinear data analysis and compression with the parallel wavelet transform", same call for projects as above, CINECA supercomputing laboratories, Amount: 2.000 euros.

(06/2006 - 06/2009) Member of the research Project: "Development of an European partnership for the study of some modern problems of the mathematical analysis". CEEX (Research Excellence) Program, Module III Romania, Amount: 10.000 euros.

(07/2006 - 09/2006) Member of the research team in the frame of the EU research program HASSIP (Harmonic Analysis for Statistical Signal and Image Processing) coordinated by the Aix-Marseille University, France.
(10/2007 - 06/2009) Principal post-doc researcher for the project: "NAHA - Numerical and Applied Harmonic Analysis". University Priority Research Area: Computational Science of the Uni-Vienna, Amount 100.000 euros.
(07/2009- 09/2009) Member of the EUCETIFA (European Centre of Time-Frequency Analysis). Sponsored by the Marie Curie Excellence Grant MEXT-CT-2004-517154, Amount: 1.500.000 euros.
(10/2009 - 10/2010) Member of the ESO (European Southern Observatory) Data Reduction Project (Austrian in-kind). Project funded by the Austrian Federal Ministry of Science and Research, Amount: 100.000 euros.
(01/2010 - 03/2010) Research director for the project "Modern mathematical methods to reconstruct large scale dithered/jittered images", research project selected by the HPC-Europa2 selection panel (Pan European research infrastructure on high performance computing funded by the European Community under contract No 228398) at Barcelona Supercomputing Center, Barcelona, Spain, Amount: 2000 euros.
(10/2010 - 08/2013) Researcher in the EU-funded project UNLOCX (Uncertainty principles versus localization properties, function systems for efficient coding schemes), Amount 1.958.971 euros.
(07/2012 - 08/2012) Research director for the project "Multi-variate optimized Gabor frames for processing nD-data cubes", research project selected by the HPC-Europa2 selection panel (Pan European research infrastructure on high performance computing funded by the European Community under contract No 228398) at Aix-Marseille University and GENCI supercomputer center, Montpellier, France, Amount: 2000 euros.
(01/2014 - 12/2014) Senior researcher in the project HOST (High Performance Computing Service Centre), at the West University of Timisoara, Project no: FP7-REGPOT-CT-2011-284595-HOST, Amount 2.226.272 euros.

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

* 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.

** Rezultatele activității de cercetare sunt evaluate conform Anexei nr. 3 la Regulamentul de organizare și funcționare a programului Gala Cercetării Românești.