

List of publications

I. ARTICLES

2020

1. R. Mîrșu, G. Simion, **C.-D. Căleanu**, I.M. Pop-Calimanu, "A PointNet-Based Solution for 3D Hand Gesture Recognition", *Sensors*, vol. 20, no. 11, 2020, Open Access: <https://www.mdpi.com/1424-8220/20/11/3226>, <https://doi.org/10.3390/s20113226>
2. Cristina Laura Sîrbu, Georgiana Simion, **C.-D. Căleanu**, "Deep CNN for Contrast-Enhanced Ultrasound Focal Liver Lesions Diagnosis", ISETC2020 – accepted paper
3. Ioan Lucan Orășan, **C.-D. Căleanu**, "ARM Embedded Low-Cost Solution for Implementing Deep Learning Paradigms", ISETC2020 – accepted paper
4. Adrian Bublea, **C.-D. Căleanu**, Deep Learning based Eye Gaze Tracking for Automotive Applications, ISETC2020 – accepted paper

2019

5. **C.-D. Căleanu**, G. Simion, „A Bag of Features Approach for CEUS Liver Lesions Investigation”, Telecommunications and Signal Processing (TSP), Budapest, Hungary, July 1-3, 2019, <https://doi.org/10.1109/TSP.2019.8768851>
6. R. Mîrșu, G. Simion, **C.-D. Căleanu**, O. Ursulescu, „Deep Neural Networks vs Bag of Features for Hand Gesture Recognition”, Telecommunications and Signal Processing (TSP), Budapest, Hungary, July 1-3, 2019, <https://doi.org/10.1109/TSP.2019.8768812>
7. Sebastian Avram, **C.-D. Căleanu**, Radu VasIU, Andreea-Mirela Safta, Horatiu George Belej, Hardware and Software Integration of an Electrophoretic display on a smart meter, ITM Web Conf. 29 03003 (2019), <https://doi.org/10.1051/itmconf/20192903003>

2018

8. E. R. Tomodan, **C.-D. Căleanu**, „Bag of Features vs Deep Neural Networks for Face Recognition”, 2018 13th International Symposium on Electronics and Telecommunications (ISETC'18), Timisoara, 2018, pp. 1-4, ISBN: 978-1-5386-5924-3, ISSN: 2475-787X, WOS:000463031500020, doi: <https://doi.org/10.1109/ISETC.2018.8583846>
9. A. Erofei, C. Druța, **C.-D. Căleanu**, "Embedded Solutions for Deep Neural Networks Implementation," 2018 IEEE 12th International Symposium on Applied Computational Intelligence and Informatics (SACI), Timisoara, 2018, pp. 000425-000430, ISBN:978-1-5386-4640-3, WOS:000448144200074, doi: <https://doi.org/10.1109/SACI.2018.8440953>

2017

10. **C.-D. Căleanu**, „Intelligent Embedded Vision”, DIPMAI Workshop, 19th International Symposium on Symbolic and Numeric Algorithms for Scientific Computing, Universitatea de Vest din Timisoara – invited speaker.

11. S. Avram, A. Safta, **C.-D. Căleanu**, R. Vasii, „Hardware and software implementation of an embedded metering webserver”, Telecommunications and Signal Processing (TSP), 2017 40th International Conference on, Page(s):43 – 46, 5-7 July 2017, Barcelona, Spain, Electronic ISBN: 978-1-5090-3982-1, Print on Demand (PoD) ISBN: 978-1-5090-3983-8, WOS:000425229000009, DOI: <https://doi.org/10.1109/TSP.2017.8075933>

2016

12. G. Simion, C. David, V. Gui, **C.-D. Căleanu**, „Fingertip-based Real Time Tracking and Gesture Recognition for Natural User Interfaces”, Acta Polytechnica Hungarica, Vol. 13, No. 5, 2016, ISSN: 1785-8860, WOS:000392925600011, DOI: <https://doi.org/10.12700/APH.13.5.2016.5.11>
13. H. Belei and **C.-D. Căleanu**, "Embedded radar simulator," 2016 12th IEEE International Symposium on Electronics and Telecommunications (ISETC), Timisoara, 2016, pp. 33-36, ISBN:978-1-5090-3748-3, WOS:000390717800008, doi: <https://doi.org/10.1109/ISETC.2016.7781050>
14. Ş. M. Măduţa, **C.-D. Căleanu**, "Steps in deployment and development of Convolutional Neural Network based applications," 2016 12th IEEE International Symposium on Electronics and Telecommunications (ISETC), Timisoara, 2016, pp. 247-251, ISBN:978-1-5090-3748-3, WOS:000390717800055, doi: <https://doi.org/10.1109/ISETC.2016.7781103>

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15. Jizheng Yi, Xia Mao, Lijiang Chen, Yuli Xue, Alberto Rovetta, **C.-D. Căleanu**, „Illumination normalization of face image based on illuminant direction estimation and improved retinex”, PLoS ONE 01/2015; 10(4):e0122200. ISSN: 1932-6203, WOS:000353332000012, DOI: <https://doi.org/10.1371/journal.pone.0122200> .
16. T. V. Moga, C. David, R. Sirli, A. Popescu, **C.-D. Căleanu**, G. Simion, V. Gui, I. Sporea, „Preliminary assessment of a CAD portotype in CEUS malignant/benign discrimination using arterial and late phase data”, ECR 2015, <http://dx.doi.org/10.1594/ecr2015/C-1029>

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17. **C.-D. Căleanu**, Simion, Georgiana; David, Ciprian; Gui, Vasile; Moga, Tudor; Popescu, Alina; Sirli, Roxana; Sporea, Ioan, "A study over the importance of arterial phase temporal parameters in focal liver lesions CEUS based diagnosis," Electronics and Telecommunications (ISETC), 2014 11th International Symposium on, vol., no., pp.1-4, 14-15 Nov. 2014, doi: <https://doi.org/10.1109/ISETC.2014.7010799> , ISBN 978-1-4799-7266-1.
18. Simion, Georgiana; **C.-D. Căleanu**, "Multi-stage 3D segmentation for ToF based gesture recognition system," Electronics and Telecommunications (ISETC), 2014 11th International Symposium on , vol., no., pp.1,4, 14-15 Nov. 2014, doi: <https://doi.org/10.1109/ISETC.2014.7010800> , ISBN 978-1-4799-7266-1.

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19. Simion G., **C.-D. Căleanu**. "Sparse Feature for Hand Gesture Recognition: A Comparative Study", 36th International Conference on Telecommunications and Signal Processing (TSP), July 2-4, Rome,

Italy, pag. 858-861, 978-1-4799-0403-7/13/ IEEE, ISBN: 978-147990404-4, DOI: 10.1109/TSP.2013.6614061, 2013.

20. **C.-D. Căleanu**, "*Face Expression Recognition: a Brief Overview of the Last Decade*", 8th IEEE International Symposium on Applied Computational Intelligence and Informatics, May 23–25, pp. 157- 161, Timișoara, Romania, IEEE Catalog Number: CFP1345C-USB (pendrive proceedings); CFP1345C-PRT (printed proceedings), ISBN Number: 978-1-4673-6398-3 (pendrive); 978-1-4673-6397-6 (printed), Timișoara, Romania, 2013, DOI: <http://dx.doi.org/10.1109/SACI.2013.6608958>
21. Ana-Andreea Nagăț, **C.-D. Căleanu**, "*Face Identification Using Kinect Technology*", 8th IEEE International Symposium on Applied Computational Intelligence and Informatics, May 23–25, pp. 169- 172, IEEE Catalog Number: CFP1345C-USB (pendrive proceedings); CFP1345C-PRT (printed proceedings), ISBN Number: 978-1-4673-6398-3 (pendrive); 978-1-4673-6397-6 (printed), Timișoara, Romania, 2013, DOI: <http://dx.doi.org/10.1109/SACI.2013.6608961>

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23. R. Mîrșu, S. Micuț, **C.-D. Căleanu**, D. B. Mîrșu, "*Optimized Simulation Framework for Spiking Neural Networks using GPU's*", Advances in Electrical and Computer Engineering, vol. 12, nr. 2, pag. 61-68, ISSN 1582-7445, <http://dx.doi.org/10.4316/AECE.2012.02011>, Mai, 2012.
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25. **C.-D. Căleanu**, X. Mao, G. Pradel, S. Moga, Y. Xue, "*Combined pattern search optimization of feature extraction and classification parameters in facial recognition*", Pattern Recognition Letters, Volume 32, Issue 9, 1 July 2011, Pages 1250-1255, ISSN 0167-8655, DOI: <http://dx.doi.org/10.1016/j.patrec.2011.03.019>.
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35. F. Alexa, V. Gui, **C. D. Căleanu**, C. David, "*Fast contour extraction*", Proceedings of the 8th WSEAS International Conference on CIRCUITS, SYSTEMS, ELECTRONICS, CONTROL & SIGNAL PROCESSING (CSECS '09), ISSN: 1790-5117, ISBN: 978-960-474-139-7, pag. 232-235, Puerto De La Cruz, Tenerife, Canary Islands, Spain, December 14-16, 2009.

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80. V. Tîponuț, B. Șerbănescu, **C.D. Căleanu** – “*Echipament pentru conducerea automată pe rost a capului de sudare*”, Noutăți în sudarea structurilor metalice, pag. 182 – 188, Buzău, 1999.
81. **C.D. Căleanu** – “*Procesarea neuronală paralelă a regiunilor de interes în recunoașterea facială*”, Buletinul Științific al Universității POLITEHNICA Timișoara, Tom 44 (58), Fascicola 1, pag.129 – 136, ISSN 1224-6034, 1999.
82. M. Mocofan, **C.D. Căleanu**, C. Toma – “*Conscience Algorithm based Neural Network for Unsupervised Texture Image Segmentation*”, International Conference Beyond 2000: Engineering Research Strategies, Sibiu, November 25-26, vol.XXXVIII, pag.93-96, ISSN 1221-4949, 1999.
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84. **C.D. Căleanu**, M. Mocofan – “*Hierarchical Structure of Modular Self-Organizing Neural Networks for Unsupervised Texture Image Segmentation*”, Buletinul Științific al Universității POLITEHNICA Timișoara, Tom 44 (58), Fascicola 2, ISSN 1224-6034, 135-141, 1999.

1997

85. M. Balas, V. Balas, **C. D. Căleanu**, “*Regulatoare aplicabile in instalatiile de condiționare a aerului din vagoanele de calatori*”, Lucrarile Sesiunii de Comunicari Stiintifice ale Universitatii "Aurel Vlaicu" din Arad, Editia a IV-a, 25 de ani de invatamant tehnic superior aradean, Vol VIII - Electrotehnica, Electronica si Automatizari, pag.369-378, ISBN 973-98365-8-5, 30-31 octombrie 1997.

II. BOOKS

1. R. Mîrșu, V. Maranescu, **C. D. Căleanu**, „*Practical Aspects of Electronic Devices and Circuits*”, Ed. Politehnica, ISBN 978-606-554-990-6, 194 pagini, 2015.
2. Simion, G., David, C., **C.D. Căleanu**, Gui V., „*Compositional and Hierarchical Semantic Frameworks for Hand Gesture Recognition*” în Ankit Chaudhary (editor), „Recent Trends in Hand Gesture Recognition”, ISBN 978-618-81418-5-8 (print) - ISBN 978-618-81418-4-1 (e-book), DOI 10.15579/gcsr.vol3, pag. 75-114, 2015.
3. D. Ianchiș, **C.D. Căleanu** – “*Practical aspects of Embedded Systems*”, ISBN 978-606-554-813-8, 114 pages, Politehnica Publishing House, 2014
4. **C.D. Căleanu**, A. Filip, V. Tîponuț – “*Electronic Devices and Circuits. Experiments and Simulations*”, Second Edition, ISBN 978-606-554-160-3, 195 pages, Politehnica Publishing House, Timișoara, 2010
5. **C.D. Căleanu**, V. Tîponuț, V. Maranescu, A. Filip – “*Electronic Devices*”, ISBN 978-606-554-042-2, 180 pages, Politehnica Publishing House, 2010.
6. G. Pradel, **C. D. Căleanu** – “Symbolic trajectory description in mobile robotics” în Sascha Kolski (editor), “Mobile Robots, Perception & Navigation”, ISBN 3-86611-283-1, Pro Literatur Verlag, Germany, March 2007, Available online, http://www.intechopen.com/books/show/title/mobile_robots_perception_navigation
7. **C.D. Căleanu** – “*Electronic Devices and Circuits. Experiments and Simulations*”, ISBN 973-625-086-5, “Politehnica” Publishing House, Timișoara, 2003
8. V. Tîponuț, **C.D. Căleanu** – “*Neural Networks. Architectures and algorithms*”, ISBN 973-9389-66-X, “Politehnica” Publishing House, Timișoara, 2002
9. **C.D. Căleanu**, V. Tîponuț – “*Neural Networks. Applications*”, ISBN 973-9389-67-8, “Politehnica” Publishing House, 2001.

III. GRANTS

1.

Project title: Orientation of study programs on the regional economic reality, their validation by economic actors and dynamization of the relationship in the university-student-companies triplet, for a high-performance technical higher education – OVDIP

Participant as: expert for the analysis of study programs

Program: EUROPEAN SOCIAL FUND, Sectoral Operational Program for Human Resources Development 2007 – 2013

Contract No.: POSDRU/156/1.2/G/136302

2.

Project title: “National partnership for the implementation of faculties-companies projects and transition from school to work (PACT)”

Participant as: Curricula expert

Program: Operational Programme (OP) "Human Capital"

Funding Institution: European Social Fund (ESF), European Commission

Contract No.: POSDRU/156/1.2/G/136302

3.

Project title: “Research on Emotional Facial Expression recognition in Complicated Environment”

Participant as: Grant director

Program: PN II, CAPACITIES, Module III, Bilateral Research Projects, România-China, 39-5/2008.

Funding Institution: National Authority for Scientific Research (ANCS)

Contract No.: 222/15.04.2009

Value: 29 304,45 lei (2009: 10549,43 lei, 2010: 18755,02 lei)

Duration of the contract: 2 years (2009-2010)

4.

Project title: New Methods for Facial Expression Analysis and Recognition

Participant as: Grant director

Program: PN II, IDEAS Exploratory Research, code 945/2008.

Funding institution: Executive Unit for Financing High Education and University Research (UEFISCSU)

Contract No.: 599/19.01.2009

Value: 277416,15 lei (2009: 102416,15 lei, 2010: 0 lei, 2011: 175000 lei)

Duration of the contract: 3 years (2009-2011)

5.

Project title: Statistic and Semantic Modelling in Video Sequences Analysis

Participant as: Team member

Program: PN II, IDEAS Exploratory Research, code 931/2008.

Funding institution: Executive Unit for Financing High Education and University Research (UEFISCSU)

Contract No.: 651/19.01.2009

Value: 2009: 89285,87 lei; 2010: 150000 lei; 2011: 186479 lei.

Duration of the contract: 3 years (2009-2011)

6.

Project title: Research Institute for Renewable Energy

Participant as: Team member

Program: MedCt 129/14.03.2008

Value: 1841350 lei

7.

Project title: C#/.NET Implementation for a Facial Detection and Recognition Neural System.

Participant as: Grant director

Program: CNCSIS AT MEdC, AT41, 58 GR/19.05.2006.

Value: 200 mil. ROL

Funding institution: CNCSIS - Education Minister.

8.

Project title: Artificial Intelligence in building a face detection and recognition system.

Participant as: Grant director

Program: CNCSIS AT MEdC, AT69, 27688/14.03.2005.

Value: 100 mil. ROL

Funding institution: CNCSIS - Education Minister.

9.

Project title: SIARAS, SKILL-BASED INSPECTION AND ASSEMBLY FOR RECONFIGURABLE AUTOMATION SYSTEMS

Participant as: Team member

Program: EU Sixth Framework Programme Priority, FP6- 017146, 2005.

Value: 43,567 Euro

Funding institution: European Community.

10.

Project title: Object tracking estimation in video sequences

Participant as: Team member

Program: Grant CNCSIS MEdC, A type, cod 600, no. 27688/14.03.2005.

Value: 43,000. ROL

Funding institution: CNCSIS - Education Minister.

11.

Project title: The mobile robots navigation through symbolic representation of the environment.

Participant as: Grant director

Program: CNCSIS AT MEdC 32940/22 June 2004.

Value: 65 mil ROL

Funding institution: CNCSIS - Education Minister.

12.

Project title: Environment Symbolic Representation for Mobile Robots Navigation

Participant as: Team member

Program: Framework co-operation between "POLITEHNICA" University Timisoara and - Laboratoire Systemes Complexes, Universite D'Evry Val D'Essonne, France

Value: 55000 Euro

Funding institution: Education Minister, France.

13.

Project title: Artificial Intelligence-based Universal Prediction Kernel

Participant as: Grant director

Program: Romanian Academy, 2003.

Value: 35 mil. ROL

Funding institution: Romanian Academy.

14.

Project title: Restructuring of Post University DSP Courses

Participant as: Team member

Program: TEMPUS AC-JEP 13438-98, University of Strathclyde, Glasgow, Scotland, U.K.

Value: 234.000 ECU

Funding institution: European Commission - European Training Foundation, 1998-2001.

15.

Project title: DRUM – Development of Romanian Universities Multimedia

Participant as: Team member

Program: TEMPUS S-JEP 09838/95, University of Central Lancashire, Preston, England, U.K.

Value: 460.000 ECU

Funding institution: European Commission - European Training Foundation, 1996

IV. CONTRACTS WITH INDUSTRY

1.

Name: „Investigation of Mult- and Many-Core Architectures for Embedded Systems (MMC)”

Client: Kathrein-Werke KG, Germania

Participant as: Contract director

Contract no.: BCI 2/24.03.2016

Value: 37500 Euro (Year 2016: 12500 Euro, Year 2017: 25000 Euro)

2.

Name: AICO - ADAS Innovation Challenge Open

Client: Continental Automotive

Participant as: Contract director

Contract no.: 32/20.03.2015

Value: 12904 Euro (Year 2015: 12904 Euro)

3.

Name: „Generic Central Display”

Client: Continental Automotive

Participant as: Contract director

Contract no.: 13/24.02.2012

Value: 7882 Euro (Year 2012: 7557 euro, Year 2013: 325 euro)

V. INVITED PROFESSOR

1. University of Aeronautics and Astronautics “Beihang”, Beijing, China, 2010.
2. École Nationale Supérieure des Télécomm. (ENST) de Bretagne, France, 2006.
3. Complex Systems Laboratories – University of Evry, France, 2003.
4. University of Strathclyde, Glasgow, UK, 1999.
5. University of Central Lancashire, Preston, UK, 1996.

VI. EDITOR/REVIEWER/ORGANIZER

Reviewer for SCI/WoS indexed journals

1. IEEE Access, USA
2. Sensors, Switzerland
3. Pattern Recognition Letters, Elsevier, The Netherlands.
4. The Institution of Electronics and Telecommunication Engineers Technical Review, India
5. ETRI Journal, Electronics and Telecommunications Research Institute, South Korea.
6. Digital Signal Processing, USA.

Organizer or member in the ISI scientific committee

1. “[Artificial Intelligence and Computer Vision](#)” Track chair, [ISETC2020](#)
2. “IEEE Workshop on Human Body Communications and Biomedical Signal Processing”, Beijing, China, 2013.

3. „International Symposium on Electronics and Telecommunications” IsETc 2008, 2010, 2012, 2014, 2016, 2018, 2020 Timișoara, România (IEEE Explore and Web of Science ISI Proceedings from 2012).
4. “WSEAS International Conference on COMPUTERS”, Rodos, Greece, Iulie 23-25, 2009.
5. “The 7th WSEAS International Conference on APPLIED COMPUTER SCIENCE” (ACS'07), Venice, Italia, Nov. 21-23, 2007.

Editor

1. “Associate Editor, WSEAS Transactions on Systems, Print ISSN: 1109-2777, E-ISSN: 2224-2678, 2013

VII. AWARDS

1. UEFISCSU prize „Research Awards for Articles”, PN-II-RU-PRECISI-2015-9-8959, 2015.
2. UEFISCDI, „Awards for Habilitation”, PN-II-RU-ABIL-2015-2-0107, 2015.
3. UEFISCSU prize „Research Awards for Articles”, PN-II-RU-PRECISI-2011-5, 2011.
4. UEFISCSU prize „Research Awards for Articles”, PN-II-RU-PREC-ISI, 2007.

VIII. PATENTS

1. Gui Vasile, Alexa F., Căleanu C., David C., Popa G., Simion G., “Method for tracking hand fingers and human computer communication means”, RO127779-A0, National patent, 2012.

IIX. IDs

1. ResearchGate profile link: https://www.researchgate.net/profile/Catalin_Caleanu
2. Researcher ID: AAE-2995-2019, <http://www.researcherid.com.am.e-nformation.ro/rid/AAE-2995-2019>
3. Scopus Author ID: 14049898400
4. ORCID: 0000-0002-0252-7047, <https://orcid.org/0000-0002-0252-7047>
5. Publons: <https://publons.com/researcher/3213409/catalin-caleanu/>
6. Google Scholar ID: <https://scholar.google.com/citations?hl=en&user=28TBUGgAAAAJ>
7. LinkedIn profile link: <https://www.linkedin.com/in/catalin-daniel-caleanu-420146b2>
8. Brainmap: <https://www.brainmap.ro/catalin-caleanu>
9. UEFISCDI ID (UEF-ID): U-1700-029V-7738