

# PUBLICATIONS, PROJECTS AND CITATIONS

## A. List of Publications

1. Darius Peteleaza, Alexandru Matei, Radu Sorostinean, **Arpad Gellert**, Ugo Fiore, Bala-Constantin Zamfirescu, Francesco Palmieri, *Electricity consumption forecasting for sustainable smart cities using machine learning methods*, Internet of Things, Vol. 27, ISSN 2543-1536 (ISI IF=6.0, Scopus), DOI 10.1016/j.iot.2024.101322, p. 101322, October 2024.
2. Claudiu Buduleci, **Arpad Gellert**, Adrian Florea, Remus Brad, *Improving Multicore Architectures by Selective Value Prediction of High-Latency Arithmetic Instructions*, Advances in Electrical and Computer Engineering, Vol. 24, No. 2, ISSN 1582-7445 (ISI IF=0.7, Scopus), DOI 10.4316/AECE.2024.02007, pp. 61-72, May 2024.
3. Radu Sorostinean, Zaharia Burghilea, **Arpad Gellert**, *Anomaly Detection in Smart Industrial Machinery Through Hidden Markov Models and Autoencoders*, IEEE Access, Vol. 12, ISSN 2169-3536 (ISI IF=3.9, Scopus, DBLP), DOI 10.1109/ACCESS.2024.3400970, pp. 69217-69228, May 2024.
4. Claudiu Buduleci, **Arpad Gellert**, Adrian Florea, Remus Brad, *Architectural and Technological Approaches for Efficient Energy Management in Multicore Processors*, Computers, Vol. 13, Issue 4, ISSN 2073-431X (ISI IF=2.8, Scopus, DBLP), DOI 10.3390/computers13040084, p. 84, March 2024.
5. **Arpad Gellert**, Lorena-Maria Olaru, Adrian Florea, Ileana-Ioana Cofaru, Ugo Fiore, Francesco Palmieri, *Estimating electricity consumption at city-level through advanced machine learning methods*, Connection Science, Vol. 36, No. 1, ISSN 0954-0091 (ISI IF=5.3, Scopus, DBLP), DOI 10.1080/09540091.2024.2313852, p. 2313852, January 2024.
6. Teodor-Adrian Radescu, **Arpad Gellert**, *Fog Detection through Image Processing Methods*, International Journal of Advanced Statistics and IT&C for Economics and Life Sciences, Vol. 13, Issue 1, ISSN 2559-365X (indexed PKP, ROAD, SCIENDO, EBSCO), DOI 10.2478/ijasitels-2023-0004, pp. 28-37, December 2023.
7. Claudiu-Raul Buduleci, **Arpad Gellert**, Adrian Florea, *Selective High-Latency Arithmetic Instruction Reuse in Multicore Processors*, The 27<sup>th</sup> International Conference on System Theory, Control and Computing (ICSTCC), ISBN 979-8-3503-3798-3 (indexed DBLP, Scopus), Timisoara, October 2023.
8. Stefan-Alexandru Precup, Snehal Walunj, **Arpad Gellert**, Christiane Plociennik, Jibinraj Antony, Constantin-Bala Zamfirescu, Martin Ruskowski, *Recognising Worker Intentions by Assembly Step Prediction*, 28th International Conference on Emerging Technologies and Factory Automation (ETFAs), ISBN 979-8-3503-3990-1 (indexed Scopus, DBLP), Sinaia, September 2023.
9. Stefan-Alexandru Precup, Alexandru Matei, Snehal Walunj, **Arpad Gellert**, Christiane Plociennik, Constantin-Bala Zamfirescu, *Collaborative exploitation of various AI methods in adaptive assembly assistance systems*, Procedia Computer Science, Elsevier, Vol. 221, ISSN 1877-0509 (indexed Scopus), pp. 1170-1177, August 2023.
10. Alexandru Matei, Stefan-Alexandru Precup, Dragos Circa, **Arpad Gellert**, Constantin-Bala Zamfirescu, *Estimating Travel Time for Autonomous Mobile Robots through Long Short-*

- Term Memory*, Mathematics, Vol. 11, Issue 7, ISSN 2227-7390 (ISI IF=2.592, Scopus), DOI 10.3390/math11071723, p. 1723, April 2023.
11. **Árpád Gellert**, *Prediction-Based Modeling and Estimation in Advanced Computing Systems*, Habilitation Thesis, "Lucian Blaga" University of Sibiu, March 2023.
  12. Lorena M. Olaru, **Arpad Gellert**, Ugo Fiore, Francesco Palmieri, *Electricity Production and Consumption Modeling through Fuzzy Logic*, International Journal of Intelligent Systems, Vol. 37, Issue 11, ISSN 0884-8173 (ISI IF=8.993, DBLP, Scopus), DOI 10.1002/int.22942, pp. 8348-8364, November 2022.
  13. **Arpad Gellert**, Stefan-Alexandru Precup, Alexandru Matei, Bogdan-Constantin Pirvu, Constantin-Bala Zamfirescu, *Real-Time Assembly Support System with Hidden Markov Model and Hybrid Extensions*, Mathematics, Vol. 10, Issue 15, ISSN 2227-7390 (ISI IF=2.592, Scopus), DOI 10.3390/math10152725, p. 2725, August 2022.
  14. **Arpad Gellert**, Darius Sarbu, Stefan-Alexandru Precup, Alexandru Matei, Dragos Circa, Constantin-Bala Zamfirescu, *Estimation of Missing LiDAR Data for Accurate AGV Localization*, IEEE Access, Vol. 10, ISSN 2169-3536 (ISI IF=3.367, DBLP, Scopus), DOI 10.1109/ACCESS.2022.3185763, pp. 68416-68428, June 2022.
  15. Claudiu Buduleci, **Arpad Gellert**, Adrian Florea, Alexandru Matei, *Extending Sniper with Support to Access Operand Values: A Case Study on Reusability Measurement*, 23rd International Carpathian Control Conference, ISBN 978-1-6654-6636-3 (indexed ISI, Scopus), pp. 70-75, Sinaia, May 2022.
  16. Stefan-Alexandru Precup, **Arpad Gellert**, Alexandru Matei, Maria Gita, Constantin-Bala Zamfirescu, *Towards an Assembly Support System with Dynamic Bayesian Network*, Applied Sciences, Vol. 12, Issue 3, ISSN 2076-3417 (ISI IF=2.474, Scopus), DOI 10.3390/app12030985, p. 985, Switzerland, February 2022.
  17. **Arpad Gellert**, Radu Sorostinean, Bogdan-Constantin Pirvu, *Robust Assembly Assistance Using Informed Tree Search with Markov Chains*, Sensors, Vol. 22, Issue 2, ISSN 1424-8220 (ISI IF=3.275, Scopus, DBLP), DOI 10.3390/s22020495, p. 495, January 2022.
  18. **Arpad Gellert**, Ugo Fiore, Adrian Florea, Radu Chis, Francesco Palmieri, *Forecasting Electricity Consumption and Production in Smart Homes through Statistical Methods*, Sustainable Cities and Society, Vol. 76, ISSN 2210-6707 (ISI IF=7.587, Scopus), January 2022.
  19. Constantin-Bălă Zamfirescu (coordonator), Alexandru Matei (editor), Vasile-Alexandru Butean, Dragoș Circa, Alin Marius Cruceat, **Arpad Gellert**, Teodor Ghețiu, Valentin Cătălin Govoreanu, Mihai Neghină, Răzvan Gabriel Pămărac, Radu Emanuil Petrusse, Bogdan-Constantin Pîrvu, Livia Dana Pogan, Radu Ioan Popa, Ștefan Alexandru Precup, Samuel Pușcașu, Sergiu Gabriel Stanciu, Radu Traian Șoroștinean, Nicolae-Adrian Țocu, Radu-Alexandru Voju, *Ingineria sistemelor socio-fizico-cibernetice în sisteme de producție*, Editura Universității „Lucian Blaga” din Sibiu, ISBN 978-606-12-1848-6, 2021.
  20. Constantin-Bălă Zamfirescu (coordonator), Vasile-Alexandru Butean, Dragoș Circa, Alin Marius Cruceat, **Arpad Gellert**, Teodor Ghețiu, Valentin Cătălin Govoreanu, Alexandru Matei, Mihai Neghină, Bogdan-Constantin Pîrvu, Ștefan Alexandru Precup, Samuel Pușcașu, Nicolae-Adrian Țocu, Radu-Alexandru Voju, *Studii de analiză a arhitecturilor, metodelor și tehnicilor de implementare a celei de-a patra revoluții tehnologice*, Editura Universității „Lucian Blaga” din Sibiu, ISBN 978-606-12-1847-9, 2021.
  21. **Arpad Gellert**, Remus Brad, Daniel Morariu, Mihai Neghina, *Filtering Random Valued Impulse Noise from Grayscale Images through Support Vector Machine and Markov Chain*,

- International Journal of Advanced Statistics and IT&C for Economics and Life Sciences, Vol. 11, Issue 1, ISSN 2559-365X (indexed PKP, ROAD, SCIENDO, EBSCO), DOI 10.2478/ijasitels-2021-0004, pp. 70-84, December 2021.
22. Alexandru Matei, Nicolae-Adrian Tocu, Constantin-Bala Zamfirescu, **Arpad Gellert**, Mihai Neghina, *Engineering a Digital Twin for Manual Assembling*, Leveraging Applications of Formal Methods, Verification and Validation: Tools and Trends, ISoLA 2020, Lecture Notes in Computer Science, Vol. 12479, ISBN 978-3-030-83722-8, pp. 140-152, Springer, Cham, 2021.
  23. **Arpad Gellert**, *Web Usage Mining by Neural Hybrid Prediction with Markov Chain Components*, Journal of Web Engineering, River Publishers, Vol. 20, Issue 5, ISSN 1540-9589 (ISI IF= 0.396, DBLP), pp. 1279-1296, Denmark, July 2021.
  24. Radu Sorostinean, **Arpad Gellert**, Bogdan-Constantin Pirvu, *Assembly Assistance System with Decision Trees and Ensemble Learning*, Sensors, Vol. 21, Issue 11, ISSN 1424-8220 (ISI IF=3.275, Scopus, DBLP), DOI 10.3390/s21113580, p. 3580, May 2021.
  25. Stefan-Alexandru Precup, **Arpad Gellert**, Alexandru Dorobantiu, Constantin-Bala Zamfirescu, *Assembly Process Modeling Through Long Short-Term Memory*, 13<sup>th</sup> Asian Conference on Intelligent Information and Database Systems, ISSN 1865-0929 (indexed DBLP), pp. 28-39, Phuket, Thailand, April 2021.
  26. **Arpad Gellert**, Stefan-Alexandru Precup, Bogdan-Constantin Pirvu, Ugo Fiore, Constantin-Bala Zamfirescu, Francesco Palmieri, *An Empirical Evaluation of Prediction by Partial Matching in Assembly Assistance Systems*, Applied Sciences, Vol. 11, Issue 7, ISSN 2076-3417 (ISI IF=2.474, Scopus), DOI 10.3390/app11073278, p. 3278, April 2021.
  27. Miroslav-Andrei Bachici, **Arpad Gellert**, *Modeling Electricity Consumption and Production in Smart Homes using LSTM Networks*, International Journal of Advanced Statistics and IT&C for Economics and Life Sciences, Vol. X, No. 1, ISSN 2559-365X (indexed PKP, ROAD, SCIENDO), DOI 10.2478/ijasitels-2020-0009, pp. 80-90, December 2020.
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  29. **Arpad Gellert**, Stefan-Alexandru Precup, Bogdan-Constantin Pirvu, Constantin-Bala Zamfirescu, *Prediction-Based Assembly Assistance System*, 25<sup>th</sup> International Conference on Emerging Technologies and Factory Automation (ETFA), ISBN 978-1-7281-8957-4, pages 1065-1068, Vienna, Austria, September 2020.
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  32. Nicolae-Adrian Tocu, **Arpad Gellert**, Ioana-Ramona Stefan, Teodor-Marian Nitescu, Gabriela-Alexandra Luca, *The impact of virtual reality simulators in manufacturing industry*, 12<sup>th</sup> Annual International Conference on Education and New Learning Technologies, ISBN 978-84-09-17979-4, pages 3084-3093, Palma de Mallorca, Spain, July 2020.
  33. **Arpad Gellert**, Constantin-Bala Zamfirescu, *Using Two-Level Context-Based Predictors for Assembly Assistance in Smart Factories*, Intelligent Methods in Computing, Communications

- and Control: 8<sup>th</sup> International Conference on Computers Communications and Control, Springer, ISBN 978-303-053-650-3 (indexed Scopus), pages 167-176, Oradea, May 2020.
34. **Árpád Gellért**, *Analiza și proiectarea algoritmilor: o abordare pragmatică prin aplicații Java*, Ediția a 2-a, Editura Techno Media, ISBN 978-606-616-360-6, 2019.
  35. **Arpad Gellert**, Adrian Florea, Ugo Fiore, Francesco Palmieri, Paolo Zanetti, *A study on forecasting electricity production and consumption in smart cities and factories*, International Journal of Information Management, Elsevier, ISSN 0268-4012 (ISI IF=5.063, Scopus, DBLP), Vol. 49, pages 546-556, December 2019.
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  41. **Arpad Gellert**, Remus Brad, *Studying the influence of search rule and context shape in filtering impulse noise images with Markov chains*, Signal, Image and Video Processing, Springer London, Vol. 12, Issue 2, ISSN 1863-1703 (ISI IF=1.102, Scopus, DBLP), DOI 10.1007/s11760-017-1160-1, pages 315-322, February 2018.
  42. Adrian Florea, **Arpad Gellert**, *Developing Heuristics for the Graph Coloring Problem Applied to Register Allocation in Embedded Systems*, Journal of Multimedia Processing and Technologies, Vol. 8, No. 3, ISSN 0976-4127 (indexed DBLP), September 2017.
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47. Adrian Florea, **Arpad Gellert**, Delilah Florea, Adrian-Cristian Florea, *Teaching Programming by Developing Games in Alice*, The 12th International Scientific Conference "eLearning and Software for Education" (eLSE 2016), ISSN 2066-026X (indexed ISI), Vol. 1, DOI 10.12753/2066-026X-16-073, Bucharest, April 2016.
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  51. Adrian Florea, **Arpad Gellert**, *Different Approaches for Solving Optimization Problems using Interactive e-Learning Tools*, The 10<sup>th</sup> International Scientific Conference "eLearning and Software for Education" (eLSE 2014), ISSN 2066-026X (indexed ISI), Vol. 2, Bucharest, April 2014.
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  55. **Arpad Gellert**, Horia Calborean, Lucian Vintan, Adrian Florea, *Multi-Objective Optimizations for a Superscalar Architecture with Selective Value Prediction*, IET Computers & Digital Techniques, Vol. 6, Issue 4, ISSN: 1751-8601 (ISI IF=0.284, Scopus, DBLP), pages 205-213, Stevenage, United Kingdom, July 2012.
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## B. Projects

1. Director, *Modelarea și optimizarea consumului și a producției de electricitate prin metode avansate de învățare automată*, Grant LBUS-HPI-ERG-2023-03, 2023-2025, 150.000 EUR.



2. Director, *Monitoring eco-friendly quality of the PET bottle manufacturing using advanced AI*, DIH-World Open Call 2 (Horizon 2020 EU Grant Agreement No. 952176), 2022-2023, 28.125 EUR.
3. Membru (director Bogdan-Constantin Pîrvu), *Futures of Innovation Technologies European Digital Innovation Hub*, Proiect Digital Europe 101083915, 2022-2025, 745.529,99 EUR.
4. Director, *Metode de estimare a consumului de energie electrică la nivel de oraș*, Grant LBUS-IRG-2022-08, 2022-2025, 12.000 lei.
5. Director, *Modelarea proceselor de asamblare asistată a produselor prin metode de inteligență artificială*, Grant LBUS-IRG-2021-07, 2021-2024, 12.000 lei.
6. Member (director Constantin-Bala Zamfirescu), *Ingineria învățării automate în Digital Twin*, Grant LBUS-HPI-ERG-2020-03, 2021-2023, 750.000 lei.
7. Director, *Modelare și estimare prin metode avansate de predicție*, Grant LBUS-IRG-2020-06, 2020-2023, 12.000 lei.
8. Director, *Tehnici de predicție a consumului și a producției de energie electrică în clădiri*, Grant LBUS-IRG-2019-05, 2019-2022, 11.875 lei.
9. Member (director Bogdan Pîrvu), *Dezvoltarea sistemelor socio-fizico-cibernetice pe baza Internetului Lucrurilor în fabrica viitorului*, Proiect POC, ID P\_37\_771, 2019-2020, 8.925.938,42 lei.
10. Director, *Metode de anticipare statistice în sisteme de gestiune a energiei electrice*, Grant LBUS-IRG-2018-04, 2018-2020, 9.000 lei.
11. Member (director Gabriel Leahu), *Personalul didactic din învățământul preuniversitar și universitar de stat – promotor al învățării pe tot parcursul vieții*, Proiect POSDRU/174/1.3/S/149155, 2014.
12. Member (director Daniel Mara), *e-Mentor: Dezvoltarea de competențe și abilități TIC și Mentorat educațional al persoanelor cu dizabilități*, Proiect POSDRU/157/1.3/S/140877, 2013, 9.565.559,35 lei.
13. Member (director Koen de Boschere – Ghent Univ., Belgium), *High Performance and Embedded Architecture and Compilation (HiPEAC)*, FP7 project no. 287759, 2012-2015, EUR 3.808.245.
14. Responsable, *Design Space Exploration of Advanced Prediction Methods for Speculative Computer Architectures*, proiect de cercetare cod 0066/AMM din 22.05.2009, Politecnico di Milano, Italia, 2009, EUR 3.000.
15. Member (director Maria Vințan), *Extinderea paradigmei analizei scurtcircuitelor monofazate în rețelele electrice de înaltă tensiune prin metode clasice și euristice*, Grant CNCSIS, cod 485, 2008, 510320 lei.
16. Director, *Metode avansate de predicție integrate în arhitecturi cu procesări speculative*, Grant CNCSIS tip TD, cod 248, 2007/2008, 28428 lei.
17. Member (director Lucian Vințan), *Microarhitectură superscalară avansată cu procesări paralele și predictiv-speculative*, Grant CNCSIS tip A, cod 39, 2007/2008, 175000 lei.
18. Member (director Constantin Oprean), *Sistem de suport al deciziilor de grup în mediul academic și al administrației publice – premisă a descentralizării și democratizării sistemului decizional*, Proiect P-CD, Nr. eCD1, Effective Decisions, 2005, 129735 lei.
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