

### **American sign language character recognition using convolutional neural networks**

Abdullah, Atesam; Ali, Nisar; Ali, Raja Hashim; **Abideen, Zain Ul**; Ijaz, Ali Zeeshan; Bais, Abdul 2023 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE) : Regina, SK, Canada, 24-27 September 2023 / p. 165-169  
<https://doi.org/10.1109/CCECE58730.2023.10288799>

### **APPRAISER : DNN fault resilience analysis employing approximation errors**

**Taheri, Mahdi; Ahmadilivani, Mohammad Hasan; Jenihhin, Maksim; Daneshtalab, Masoud; Raik, Jaan** 2023 26th International Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS) 2023 / p. 124–127 : ill  
<https://ddec2023.taltech.ee/> <https://doi.org/10.1109/DDECS57882.2023.10139468>

### **Artificial intelligence methods for data based modeling and analysis of complex processes : real life examples [Online resource]**

**Vassiljeva, Kristina; Petlenkov, Eduard; Vansovitš, Vitali; Tepljakov, Aleksei** Proceedings of the 2016 IEEE First International Conference on Data Stream Mining & Processing (DSMP) : Lviv, Ukraine, August 23-27, 2016 / p. 363-368 : ill  
<https://doi.org/10.1109/DSMP.2016.7583579>

### **Assessment of malicious tweets impact on stock market prices**

**Ishikawa, Tatsuki; Ben Sassi, Imen; Ben Yahia, Sadok** Research Challenges in Information Science : 15th International Conference, RCIS 2021, Limassol, Cyprus, May 11–14, 2021 : proceedings 2021 / p. 330–346 [https://doi.org/10.1007/978-3-030-75018-3\\_22](https://doi.org/10.1007/978-3-030-75018-3_22) [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **The bearing faults detection methods for electrical machines — the state of the art**

Khan, Muhammad Amir; **Asad, Bilal; Kudelina, Karolina; Vaimann, Toomas; Kallaste, Ants** Energies 2023 / art. 296  
<https://doi.org/10.3390/en16010296> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Charge Diagnostics and State Estimation of Battery Energy Storage Systems Through Transformer Models**

**Zequera, Rolando Antonio Gilbert; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants** IEEE Access 2025 / p. 17733–17744 : ill <https://doi.org/10.1109/ACCESS.2025.3532858>

### **Coordinated PI-based frequency deviation control of isolated hybrid microgrid : an online multi-agent tuning approach via reinforcement learning**

**Nosrati, Komeil; Tepljakov, Aleksei; Petlenkov, Eduard; Levron, Yoash; Škiparev, Vjatseslav; Belikov, Juri** 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe) : proceedings 2022 / p. 1-5 : ill <https://doi.org/10.1109/ISGT-Europe54678.2022.9960311>

### **Deep Learning methodology for charging management applications in battery cells based on Neural Networks**

**Zequera, Rolando Antonio Gilbert; Rjabtšikov, Viktor; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants** IEEE Transactions on Intelligent Vehicles 2025 / p. 668-682 <https://doi.org/10.1109/TIV.2024.3417216>

### **Development and utilization of synthetic signals for fault diagnostics of electrical machines**

**Raja, Hadi Ashraf; Kudelina, Karolina; Asad, Bilal; Vaimann, Toomas; Rassölkin, Anton; Kallaste, Ants** IEEE journal of emerging and selected topics in industrial electronics 2024 / 9 p <https://doi.org/10.1109/JESTIE.2024.3395650>

### **Dynamic predictive modeling approach of user behavior in virtual reality based application**

**Köse, Ahmet; Tepljakov, Aleksei; Petlenkov, Eduard** 2019 27th Mediterranean Conference on Control and Automation (MED) 2019 / p. 57-62 : ill <https://doi.org/10.1109/MED.2019.8798521>

### **An efficient FPGA-based architecture for contractive autoencoders**

**Kerner, Madis; Tammemäe, Kalle; Raik, Jaan; Hollstein, Thomas** 2020 IEEE 28th Annual International Symposium on Field-Programmable Custom Computing Machines (FCCM), 3 – 6 May 2020, Fayetteville, Arkansas : proceedings 2020 / p. 230–230  
<https://doi.org/10.1109/FCCM48280.2020.00062>

### **Estimating quality of transmission in a live production network using machine learning**

Müller, Jasper; Fehenberger, Tobias; Patri, Sai Kireet; **Kaeval, Kaida**; Griesser, Helmut; Tikas, Marko; Elbers, Jörg-Peter 2021 Optical Fiber Communications Conference and Exhibition (OFC) : 6-10 June 2021 : San Francisco, CA, USA 2021 / paper Tu1G.2, 3 p <https://ieeexplore.ieee.org/abstract/document/9489940>

### **Evaluating the robustness of ML models to out-of-distribution data through similarity analysis**

Lindén, Joakim; Forsberg, Håkan; **Daneshtalab, Masoud**; Söderquist, Ingemar New Trends in Database and Information Systems; ADBIS 2023 Short Papers, Doctoral Consortium and Workshops: AIDMA, DOING, K-Gals, MADEISD, PeRS, Barcelona, Spain, September 4–7, 2023, Proceedings 2023 / p. 348 - 359 [https://doi.org/10.1007/978-3-031-42941-5\\_30](https://doi.org/10.1007/978-3-031-42941-5_30)

### **Evolutionary design of the closed loop control on the basis of NN-ANARX model using genetic algorithm**

**Vassiljeva, Kristina; Petlenkov, Eduard; Nömm, Sven** Neural information processing : 19th International Conference, ICONIP 2012, Doha, Qatar, November 12-15, 2012 : proceedings. Part I 2012 / p. 592-599 : ill [https://link.springer.com/chapter/10.1007/978-3-642-34475-6\\_71](https://link.springer.com/chapter/10.1007/978-3-642-34475-6_71)

### **Fault detection and predictive maintenance of electrical machines : perspective chapter**

**Raja, Hadi Ashraf; Kudelina, Karolina; Asad, Bilal; Vaimann, Toomas** New Trends in Electric Machines - Technology and Applications 2022 <https://doi.org/10.5772/intechopen.107167>

### **Genetic algorithm based structure identification for feedback control of nonlinear MIMO systems**

**Vassiljeva, Kristina; Belikov, Juri; Petlenkov, Eduard** Lecture notes in computer science 2011 / p. 215-226 : ill [https://link.springer.com/chapter/10.1007/978-3-642-23857-4\\_23](https://link.springer.com/chapter/10.1007/978-3-642-23857-4_23)

### **Hardware Trojans for confidence reduction and misclassifications on neural networks**

**Grailoo, Mahdieh; Leier, Mairo; Pagliarini, Samuel Nascimento** Proceedings Of The Twenty Third International Symposium On Quality Electronic Design (ISQED 2022) 2022 / art. 180541, p. 230-235 <https://doi.org/10.1109/ISQED54688.2022.9806246>

### **Kolmogorov-Arnold networks for algorithm design in battery energy storage system applications**

**Zequera, Rolando Antonio Gilbert; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants** Energy Reports 2025 / p. 2664-2677 <https://doi.org/10.1016/j.egy.2025.02.002>

### **Lightweight CNN-based Microfluidic Droplet Classification for Portable Imaging Flow Cytometry**

**Afrin, Fariha; Le Moullec, Yannick; Pardy, Tamas; Rang, Toomas** Proceedings of the Estonian Academy of Sciences 2025 / p. 302-311 <https://doi.org/10.3176/proc.2025.2S.05>

### **Machine learning and deep learning techniques for residential load forecasting : a comparative analysis**

**Shabbir, Noman; Kütt, Lauri; Raja, Hadi Ashraf; Ahmadiyahangar, Roya; Rosin, Argo; Husev, Oleksandr** 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2021 / p. 1-5 <https://doi.org/10.1109/RTUCON53541.2021.9711741>

### **Machine learning assisted methodology for multiclass classification of malignant brain tumors**

**Vidarthi, Ankit; Agarwal, Ruchi; Gupta, Deepak; Sharma, Rahul; Draheim, Dirk; Tiwari, Prayag** IEEE Access 2022 / p. 50624-50640 <https://doi.org/10.1109/ACCESS.2022.3172303> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Methods of condition monitoring and fault detection for electrical machines**

**Kudelina, Karolina; Asad, Bilal; Vaimann, Toomas; Rassölkin, Anton; Kallaste, Ants; Khang, Huynh Van** Energies 2021 / art. 7459, 20 p. : ill <https://doi.org/10.3390/en14227459> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Microfluidic droplet classification through tuned convolutional neural network on a resource constrained platform**

**Afrin, Fariha; Le Moullec, Yannick; Pardy, Tamas** 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 4 p <https://doi.org/10.1109/BEC61458.2024.10737958> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Modelling of magnetization processes of 3D-Printed Fe-Si components by means of an artificial neural network implemented in a FEM scheme**

**Stella, Marco; Faba, Antonio; Bertolini, Vittorio; Fulginei, F. Riganti; Sabino, Lorenzo; Tiismus, Hans; Kallaste, Ants; Cardelli, Ermanno** 2024 International Conference on Electrical Machines (ICEM) 2024 / 7 p <https://doi.org/10.1109/ICEM60801.2024.10700301>

### **Neural networks based system for the supervision of therapeutic exercises**

**Nömm, Sven; Kuusik, Alar; Ovsjanski, Sergei; Malmberg, Ines; Parve, Marko; Orunurm, Lii** Neural information processing : 19th International Conference, ICONIP 2012, Doha, Qatar, November 12-15, 2012 : proceedings. Part IV 2012 / p. 364-371 : ill [https://link.springer.com/chapter/10.1007/978-3-642-34478-7\\_45](https://link.springer.com/chapter/10.1007/978-3-642-34478-7_45)

### **NN-ANARX model based control of liquid level using visual feedback**

**Vassiljeva, Kristina; Tepļakov, Aleksei; Petlenkov, Eduard** 2015 IEEE International Conference on Industrial Informatics (INDIN) : proceedings : Robinson College, Cambridge, United Kingdom, 22-24 July, 2015 2015 / p. 133-138 : ill <http://dx.doi.org/10.1109/INDIN.2015.7281723>

### **NN-SANARX model based control of a multi tank liquid-level system**

**Belikov, Juri; Petlenkov, Eduard** International journal of computational intelligence systems 2015 / p. 265-277 <https://doi.org/10.1080/18756891.2015.1001950> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **A Novel driver performance model based on machine learning**

**Aksjonov, Andrei; Nedoma, Pavel; Vodovozov, Valery; Petlenkov, Eduard; Herrmann, Martin** IFAC-PapersOnLine 2018 / p. 267-272 : ill <http://dx.doi.org/10.1016/j.ifacol.2018.07.044>

### **Prototyping of a machine learning based auxiliary neurostimulation system**

**Grigorjev, Nikolai; Le Moullec, Yannick; Kuusik, Alar** 2022 18th Biennial Baltic Electronics Conference (BEC) 2022 / 6 l. <https://doi.org/10.1109/BEC56180.2022.9935607>

### **Residential load forecasting using recurrent neural networks**

**Shabbir, Noman; Ahmadihangar, Roya; Raja, Hadi Ashraf; Kütt, Lauri; Rosin, Argo** 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : proceedings 2020 / p. 478-481 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161565>

**Simulation of three-rate neural network control for stochastic model of a fighter aircraft**

**Astrov, Igor** CCECE 2003 - Canadian Conference on Electrical and Computer Engineering : Toward a Caring and Humane Technology : May 4th to 7th 2003, Montreal, Canada : proceedings. Vol. 3 2003 / p. 1711-1714 : ill

**Simulation of two-rate adaptive hybrid control with neural and neuro-fuzzy networks for stochastic model of missile autopilot**

**Astrov, Igor; Pedai, Andrus; Rüstern, Ennu** WCICA 2004 : Fifth World Congress on Intelligent Control and Automation : June 15-19, 2004, Hangzhou, China : conference proceedings. Vol. 3 2004 / p. 2603-2607 : ill

**Simulation of two-rate adaptive neural network and fuzzy logic hybrid control for stochastic model of an experimental aircraft**

**Astrov, Igor; Pedai, Andrus; Rüstern, Ennu** Canadian Conference on Electrical and Computer Engineering 2004 = Conference canadienne en genie electrique et informatique : May 2-5, 2004, Fallsview Sheraton, Niagara Falls, Canada : proceedings. Vol. 1 2004 / p. 125-128 : ill

**Simultaneous road edge and road surface markings detection using convolutional neural networks**

**Pihlak, Rene; Riid, Andri** Databases and Information Systems : 14th International Baltic Conference, DB&IS 2020, Tallinn, Estonia, June 16-19, 2020 : Proceedings 2020 / p. 109-121 [https://doi.org/10.1007/978-3-030-57672-1\\_9](https://doi.org/10.1007/978-3-030-57672-1_9) [Conference proceeding at Scopus](#) [Article at Scopus](#)

**Speech-based identification of children's gender and age with neural networks**

**Piel, Leo Kristopher; Alumäe, Tanel** Human Language Technologies - the Baltic Perspective : Proceedings of the Eighth International Conference, Baltic HLT 2018 2018 / p. 104-111 <https://doi.org/10.3233/978-1-61499-912-6-104> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Zero-memory-overhead clipping-based fault tolerance for LSTM deep neural networks**

**Parchekani, Bahram; Nazari, Samira; Ahmadiilvani, Mohammad Hasan; Azarpeyvand, Ali; Raik, Jaan; Ghasempouri, Tara; Daneshtalab, Masoud** 37th IEEE International Symposium on Defect and Fault Tolerance in VLSI and Nanotechnology Systems, Harwell, Oxfordshire, Didcot, UK, October 8th - 10th, 2024 2024 / 4 p. : ill <https://doi.org/10.1109/DFT63277.2024.10753533> [Conference proceedings at Scopus](#) [Article at Scopus](#)

**The proposal of countermeasures for deepfake voices on social media considering waveform and text embedding**

**Yanagi, Yuta; Orihara, Ryohei; Tahara, Yasuyuki; Sei, Yuichi; Alumäe, Tanel; Ohsuga, Akihiko** Annals of emerging technologies in computing 2024 / p. 15-31 ill <https://doi.org/10.33166/AETiC.2024.02.002> [Journal metrics at Scopus](#) [Article at Scopus](#)

**Trends and challenges in intelligent condition monitoring of electrical machines using machine learning**

**Kudelina, Karolina; Vaimann, Toomas; Asad, Bilal; Rassõlkin, Anton; Kallaste, Ants; Demidova, Galina** Applied sciences 2021 / art. 2761, 19 p. : ill <https://doi.org/10.3390/app11062761> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Triple fixed-point MAC unit for deep learning**

**Kerner, Madis; Tammemäe, Kalle; Raik, Jaan; Hollstein, Thomas** Proceedings of the 2021 Design, Automation & Test in Europe (DATE 2021), 1-5 February 2021 : Virtual Conference 2021 / p. 1404-1407 <https://doi.org/10.23919/DATE51398.2021.9474020>

**Wind energy forecasting using recurrent neural networks**

**Shabbir, Noman; Kütt, Lauri; Jawad, Muhammad; Ahmadihangar, Roya; Iqbal, Muhammad Naveed; Rosin, Argo** 2019 Big Data, Knowledge and Control Systems Engineering (BdKCSE) 2019 / 5 p. : ill <https://doi.org/10.1109/BdKCSE48644.2019.9010593>

**Virtual inertia control of isolated microgrids using an NN-based VFOPID controller**

**Škiparev, Vjatšeslav; Nosrati, Komeil; Tepljakov, Aleksei; Petlenkov, Eduard; Levron, Yoash; Belikov, Juri; Guerrero, Joseph M.** IEEE Transactions on sustainable energy 2023 / p. 1558-1568 <https://doi.org/10.1109/TSTE.2023.3237922> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)