

List of publications (5 March 2020)

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This list of publications follows the instructions given by the Academy of Finland and the classification of the Finnish Ministry of Education, Science and Culture (<https://www.aka.fi/en/funding/apply-for-funding/az-index-of-application-guidelines/list-of-publications/>). The publications are labeled and numbered according to their classification (A-I) and publication date. The oldest publication in each class has the smallest number and is the last one listed.

A: Peer-reviewed scientific articles

Journal article; book section, chapters in research books; conference proceedings.

- A11 Sami Malola, Paavo Nieminen, Antti Pihlajamäki, Joonas Hämäläinen, Tommi Kärkkäinen, and Hannu Häkkinen (2019). “A method for structure prediction of metal-ligand interfaces of hybrid nanoparticles”. In: *Nature communications* 10. DOI: 10.1038/s41467-019-12031-w
- A10 Anneli Heimbürger, Ville Isomöttönen, Paavo Nieminen, and Harri Keto (Oct. 2018). “How do Academics Experience Use of Recorded Audio Feedback in Higher Education? A Thematic Analysis”. In: *2018 IEEE Frontiers in Education Conference (FIE)*, pp. 1–5. DOI: 10.1109/FIE.2018.8658635
- A9 Ari Tuhkala, Tommi Kärkkäinen, and Paavo Nieminen (2018). “Semi-automatic literature mapping of participatory design studies 2006–2016”. In: *PDC '18 : Proceedings of the 15th Participatory Design Conference : Volume 2*. ACM. DOI: 10.1145/3210604.3210621
- A8 Muhammad Zeeshan Asghar, Paavo Nieminen, Seppo Hämäläinen, Tapani Ristaniemi, Muhammed Ali Imran, and Timo Hämäläinen (2017). “Cell Degradation Detection based on an Inter-Cell Approach”. In: *International Journal of Digital Content Technology and its Applications (JDCTA)* 11.1. URL: <http://www.globalcis.org/jdcta/ppl/JDCTA3792PPL.pdf>
- A7 Muhammad Zeeshan Asghar, Paavo Nieminen, Seppo Hämäläinen, Tapani Ristaniemi, Muhammad Ali Imran, and Timo Hämäläinen (2017). “Towards Proactive Context-Aware Self-Healing for 5G Networks”. In: *Computer Networks* 128, pp. 5–13. DOI: 10.1016/j.comnet.2017.04.053
- A6 Paavo Nieminen and Tommi Kärkkäinen (2016). “Multicriteria optimized MLP for imbalanced learning”. In: *ESANN 2016: Proceedings of the 24th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning*, pp. 459–464
- A5 Paavo Nieminen, Ilkka Pölönen, and Tuomo Sipola (2013). “Research literature clustering using diffusion maps”. In: *Journal of Informetrics* 7.4, pp. 874–886. DOI: 10.1016/j.joi.2013.08.004
- A4 Paavo Nieminen, Tommi Kärkkäinen, Kari Luostarinen, and Jukka Muhonen (2011). “Neural Prediction of Product Quality Based on Pilot Paper Machine Process Measurements”. In: *Adaptive and Natural Computing Algorithms: 10th International Conference, ICANNGA 2011*. Ed. by Andrej Dobnikar, Uroš Lotrič, and Branko Šter. Vol. 6593. Lecture Notes in Computer Science. Springer Berlin Heidelberg, pp. 240–249. DOI: 10.1007/978-3-642-20282-7_25
- A3 Paavo Nieminen and Tommi Kärkkäinen (2010). “Comparison of MLP Cost Functions to Dodge Mis-labeled Training Data”. In: *Proceedings of The 2010 International Joint Conference on Neural Networks (IJCNN '10)*. IEEE

- A2 Paavo Nieminen and Tommi Kärkkäinen (2009). “Ideas About a Regularized MLP Classifier by Means of Weight Decay Stepping”. In: *Adaptive and Natural Computing Algorithms: 9th International Conference, ICANNGA 2009*. Ed. by Ville Kolehmainen, Pekka Toivanen, and Bartłomiej Beliczynski. Vol. 5495. Lecture Notes in Computer Science. Springer Berlin Heidelberg, pp. 32–41
- A1 Erkki Heikkola, Kaisa Miettinen, and Paavo Nieminen (2006). “Multiobjective optimization of an ultrasonic transducer using NIMBUS”. in: *Ultrasonics* 44.4, pp. 368–380. DOI: DOI:10.1016/j.ultras.2006.04.004

B: Non-refereed scientific articles

Journal articles; book sections, chapters in research books; non-refereed conference proceedings

In this case, this class consists of project reports published in the report series of the former Department of Mathematical Information Technology, University of Jyväskylä, and any publically available pre-prints of articles submitted for publishing but currently pending the review process (as of 5 March 2020).

- B6 Antti Pihlajamäki, Joonas Hämäläinen, Joakim Linja, Paavo Nieminen, Sami Malola, Tommi Kärkkäinen, and Hannu Häkkinen (Feb. 2020). *Monte Carlo Simulations of Au₃₈(SCH₃)₂₄ Nanocluster Using Distance-Based Machine Learning Methods*. DOI: 10.26434/chemrxiv.11880888.v1
- B5 Paavo Nieminen, Neta Rabin, Tommi Kärkkäinen, Amir Averbuch, and Sami Äyramö (2010). *Robust Clustering and Neural Network Training with Dimension Reduction for Industrial Use*. Technical report. Series C. Software and Computational Engineering. Department of Mathematical Information Technology, University of Jyväskylä
- B4 Amir Averbuch, Tommi Kärkkäinen, Pekka Neittaanmäki, Paavo Nieminen, Neta Rabin, and Valery Zheludev (2010). *Applications of Dimension Reduction, Classification, and Neural Prediction for Industrial Process Data*. Technical report. Series C. Software and Computational Engineering. Department of Mathematical Information Technology, University of Jyväskylä
- B3 Andriy Ivannikov, Paavo Nieminen, and Tommi Kärkkäinen (2010). *A Beamforming Framework for Detection of Underwater Sound-Emitting Objects Using Acoustic Sensor Arrays*. Technical report. Series C. Software and Computational Engineering. Department of Mathematical Information Technology, University of Jyväskylä
- B2 Paavo Nieminen (2005b). *Interface Between Modeling Software Numerrin and Multiobjective Optimization Tool NIMBUS*. Technical report. Series B. Scientific Computing. Department of Mathematical Information Technology, University of Jyväskylä
- B1 Paavo Nieminen (2005a). *Applying IND-NIMBUS to a Design Problem in High-Power Ultrasonics*. Technical report. Series B. Scientific Computing. Department of Mathematical Information Technology, University of Jyväskylä

C: Scientific books (monographs)

Book, edited book, conference proceedings or special issue of a journal. Observe that Doctoral dissertations (monographs) are also listed under item G.

- C1 Paavo Nieminen (2016). “Multilayer perceptron training with multiobjective memetic optimization”. PhD thesis. Faculty of Information Technology, University of Jyväskylä

G: Theses

- G2 Paavo Nieminen (2016). "Multilayer perceptron training with multiobjective memetic optimization". PhD thesis. Faculty of Information Technology, University of Jyväskylä
- G1 Paavo Nieminen (2004). "Simulation Based Multiobjective Optimization: Case Numerrin and WWW-NIMBUS (written in Finnish)". MA thesis. Faculty of Information Technology, University of Jyväskylä