

**A method for heuristic fuzzy modeling in noisy environment**

Riid, Andri; Rüstern, Ennu 5th IEEE International Conference on Intelligent Systems (IS 2010) : London, 7-9 July 2010 : proceedings 2010 / p. 468-473 : ill <https://ieeexplore.ieee.org/document/5548337>

**A multistage procedure of mobile vehicle acoustic identification for single-sensor embedded device**

Astapov, Sergei; Riid, Andri International journal of electronics and telecommunications 2013 / p. 151-160 : ill

**Adaptability, interpretability and rule weights in fuzzy rule-based systems**

Riid, Andri; Rüstern, Ennu Information sciences 2014 / p. 301-312 : ill

**An integrated approach for the identification of compact, interpretable and accurate Fuzzy rule-based classifiers from data**

Riid, Andri; Rüstern, Ennu INES 2011 : 15th International Conference on Intelligent Engineering Systems : June 23–25, 2011, Poprad, Slovakia 2011 / p. 101-107 : ill <https://ieeexplore.ieee.org/document/5954728>

**Andmetöötlus hāgusloogika vahenditega ja selle rakendused**

Riid, Andri Tallinna Tehnikaülikooli aastaraamat 2010 2011 / lk. 118-121 : ill

**An application of a low-cost microwave radar to traffic monitoring [Online resource]**

Riid, Andri; Kaugerand, Jaanus; Ehala, Johannes; Jaanus, Martin; Preden, Jürgo-Sören BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p.: ill <https://doi.org/10.1109/BEC.2018.8600962>

**Automatic code generation for embedded systems from high-level models**

Riid, Andri; Preden, Jürgo-Sören; Pahtma, Raido; Serg, Risto; Lints, Taivo Elektronika ir elektrotehnika = Electronics and electrical engineering 2009 / 7, p. 33-36 <https://eejournal.ktu.lt/index.php/elt/article/view/10035>

**Automatic linguistic inversion of a fuzzy model for fed-batch fermentation control**

Riid, Andri; Leibak, Alar; Rüstern, Ennu Proc. 2006 International Conference on Intelligent Engineering Systems : INES, London, 26-28 June 2006 2006 / p. 129-134  
[https://www.researchgate.net/publication/224646300\\_Automatic\\_Linguistic\\_Inversion\\_of\\_a\\_Fuzzy\\_Model\\_for\\_Fed-Batch\\_Fermentation\\_Control](https://www.researchgate.net/publication/224646300_Automatic_Linguistic_Inversion_of_a_Fuzzy_Model_for_Fed-Batch_Fermentation_Control)

**Car navigation and collision avoidance system with fuzzy logic**

Riid, Andri; Pahhomov, Dmitri; Rüstern, Ennu 2004 IEEE International Conference on Fuzzy Systems : proceedings : Budapest, Hungary, 25-29 July, 2004. Vol. 3 2004 / p. 1443-1448 : ill <https://ieeexplore.ieee.org/document/1375386>

**A combined method for error and complexity reduction in fuzzy rule-based classification**

Riid, Andri; Preden, Jürgo-Sören IEEE International Conference on Fuzzy Systems : August 2-5, 2015, Istanbul, Turkey 2015 / [6] p. : ill <https://doi.org/10.1109/FUZZ-IEEE.2015.7337806>

**Combining multiple sound sources localization hybrid algorithm and fuzzy rule based classification for real-time speaker tracking application**

Ibala, Christian; Astapov, Sergei; Riid, Andri International journal of microelectronics and computer science 2013 / p. 12-25 : ill

**Comparison of fuzzy function approximators**

Riid, Andri; Rüstern, Ennu BEC'98 : the 6th Biennial Conference on Electronics and Microsystems Technology, October 7-9, 1998, Tallinn, Estonia : proceedings 1998 / p. 139-142: ill

**Computational intelligence methods for process control : fed-batch fermentation application**

Riid, Andri; Rüstern, Ennu International journal of computational intelligence in bioinformatics and systems biology 2009 / 2, p. 135-162 [https://www.academia.edu/19788077/Computational\\_intelligence\\_methods\\_for\\_process\\_control\\_fed\\_batch\\_fermentation\\_application](https://www.academia.edu/19788077/Computational_intelligence_methods_for_process_control_fed_batch_fermentation_application)

**Deep learning for detection of pavement distress using nonideal photographic images**

Tepljakov, Aleksei; Riid, Andri; Pihlak, Rene; Vassiljeva, Kristina; Petlenkov, Eduard 2019 42nd International Conference on Telecommunications and Signal Processing (TSP) 2019 / p. 195-200 : ill <http://doi.org/10.1109/TSP.2019.8769086>

**Design of fuzzy rule-based classifiers through granulation and consolidation**

Riid, Andri; Preden, Jürgo-Sören Journal of artificial intelligence and soft computing research 2017 / p. 137-147 : ill  
<https://doi.org/10.1515/jaiscr-2017-0010>

**Detection, identification and tracking of mobile objects with distributed system of systems**

Riid, Andri; Preden, Jürgo-Sören; Astapov, Sergei Proceedings of the 9th International Conference on System of Systems Engineering (SoSE 2014) : 9-13 June 2014, Stamford Grand, Glenelg, Australia 2014 / p. 224-229 : ill

**Determination of regional variants in the versification of Estonian folksongs using an interpretable fuzzy rule-based**

#### **classifier**

**Riid, Andri**; Sarv, Mari Proceedings of the 8th Conference of the European Society for Fuzzy Logic and Technology (EUSFLAT 2013), Milano, Italy, September 11-13, 2013 2013 / p. 61-66 : ill

#### **Development and testing of a compact voice command recognition algorithm for limited complexity microcontroller devices**

**Udal, Andres; Riid, Andri; Jaanus, Martin; Pärnamets, Kaiser**; Lokuta, Madis 2018 22nd International Conference Electronics : Palanga, Lithuania, 18-20 June 2018 2018 / p. 1-4 : ill <http://doi.org/10.1109/ELECTRONICS.2018.8443645>

#### **Distributed fusion and automated sensor tasking in ISR systems**

**Preden, Jürjo-Sören; Pahtma, Raido; Astapov, Sergei; Ehala, Johannes; Riid, Andri; Mõtus, Leo** Ground/air multisensor interoperability, integration, and networking for persistent ISR V 2014 / p. 90790M-1 - 90790M-10 : ill

#### **Distributed signal processing for situation assessment in cyber-physical systems = Hajutatud signaalitöötlus olukorra hindamiseks küberfüüsilistes süsteemides**

**Astapov, Sergei** 2016 <http://digi.lib.ttu.ee/i/26212>

#### **Error-free simplification of transparent Mamdani systems**

**Riid, Andri**; Saastamoinen, Kalle; **Rüstern, Ennu** 2008 / p. 2-8 - 2-13

#### **Extracting and exploiting linguistic information from a Fuzzy process model for bed-batch fermentation control**

**Riid, Andri; Rüstern, Ennu** Intelligent engineering systems and computational cybernetics. III 2009 / p. 95-105

#### **Fed-batch fermentation controller design with evolutionary computation**

**Riid, Andri; Rüstern, Ennu** CSTST '08 Proceedings of the 5th international conference on Soft computing as transdisciplinary science and technology 2008 / p. 371-377 : ill

#### **Fuzzy hierarchical control of truck and trailer**

**Riid, Andri; Rüstern, Ennu** BEC 2002 : proceedings of the 8th Biennial Baltic Electronics Conference : October 6-9, 2002, Tallinn, Estonia 2002 / p. 141-144 : ill

#### **Fuzzy knowledge-based control for backing multi-trailer systems**

**Riid, Andri; Ketola, J.; Rüstern, Ennu** Proceedings of the IEEE Intelligent Vehicles Symposium (IV'07) : Istanbul, 13-15 June, 2007 2007 / p. 498-504 <https://ieeexplore.ieee.org/document/4290164>

#### **Fuzzy logic in control : truck backer-upper problem revisited**

**Riid, Andri; Rüstern, Ennu** The 10th IEEE International Conference on Fuzzy Systems : Melbourne, Australia, December 2001. Volume 1 2001 / [4] p. : ill

#### **Fuzzy modelling and control of fed-batch fermentation**

**Riid, Andri; Rüstern, Ennu** Computational intelligence and applications 1999 / p. 283-291

#### **Generic membership function and its application to fuzzy modeling**

**Riid, Andri; Isotamm, Raul; Rüstern, Ennu** BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 129-132 : ill

#### **Genetic algorithms in transparent fuzzy modeling**

**Riid, Andri; Jartsev, Pavel; Rüstern, Ennu** The 7th Biennial Conference on Electronics and Microsystem Technology "Baltic Electronics Conference" : BEC 2000 : October 8 - 11, 2000, Tallinn, Estonia : conference proceedings 2000 / p. 91-94 : ill

#### **Gradient descent based optimization of transparent Mamdani systems**

**Riid, Andri; Rüstern, Ennu** Proc. 6th Int. Conf. on Neural Networks and Soft Computing 2002, Zakopane 2002 / p. 545-550

#### **Heuro-fuzzy extraction of interpretable fuzzy rules from data**

**Riid, Andri; Rüstern, Ennu** 2004 IEEE International Conference on Systems, Man & Cybernetics : The Hague, Netherlands, 10-13 October, 2004. Vol. 3 2004 / p. 2266-2271 : ill

#### **A hierarchical algorithm for moving vehicle identification based on acoustic noise analysis**

**Astapov, Sergei; Riid, Andri** Proceedings of the 19th International Conference Mixed Design of Integrated Circuits and Systems : MIXDES 2012 : Warsaw, Poland, 24-26 May, 2012 2012 / p. 467-472 : ill <https://ieeexplore.ieee.org/document/6226235>

#### **Hägus loogika ja automaatjuhtimine : ettekanne XXXIX automaatikapäeval 12. märtsil TTÜ aulas**

**Riid, Andri** Tallinna Tehnikaülikooli aastaraamat 2001 2003 / lk. 262-266

#### **Identification of drivable road area from orthophotos using a convolutional neural network**

**Riid, Andri; Pihlak, Rene; Liinev, Raul** 2020 17th Biennial Baltic electronics conference, Tallinn, Estonia, October 6-8, 2020 : proceedings 2020 / 5 p. : ill <https://doi.org/10.1109/BEC49624.2020.9277392>

**Identification of numerically accurate first-order Takagi-Sugeno systems with interpretable local models from data**  
**Riid, Andri; Rüstern, Ennu** Journal of advanced computational intelligence and intelligent informatics 2005 / 5, p. 526-533

**Identification of transparent, compact, accurate and reliable linguistic fuzzy models**  
**Riid, Andri; Rüstern, Ennu** Information sciences 2011 / p. 4378-4393

**Image-Based pavement type classification with convolutional neural networks**  
**Riid, Andri; Manna, Davide Liberato; Astapov, Sergei** INES 2020 : IEEE 24th International Conference on Intelligent Engineering Systems, July 8-10, 2020, Reykjavik, Iceland : proceedings 2020 / p. 55-60 : ill <https://doi.org/10.1109/INES49302.2020.9147199>

**Industrial process monitoring by multi-channel acoustic signal analysis**  
**Astapov, Sergei; Riid, Andri; Preden, Jürjo-Sören; Aruväli, Tanel** BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 209-212 : ill

**Interpretability improvement of fuzzy rule-based classifiers via rule compression**  
**Riid, Andri; Preden, Jürjo-Sören** International Joint Conference IFSA-EUSFLAT : June 30th - July 3rd, Gijon, Asturias (Spain) 2015 / p. 162-169 : ill <http://dx.doi.org/10.2991/ifsa-eusflat-15.2015.26>

**Interpretability improvement of Fuzzy systems : reducing the number of unique singletons in Zeroth order Takagi-Sugeno systems**  
**Riid, Andri; Rüstern, Ennu** WCCI 2010 IEEE World Congress on Computational Intelligence : July, 18-23, Barcelona, Spain : proceedings 2010 / p. 2913-2018 : ill <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=2d2002fb7518da488fde49a2eeeb7a109438a04c>

**Interpretability of Fuzzy Systems and its application to process control**  
**Riid, Andri; Rüstern, Ennu** Proceedings of the 2007 IEEE International Conference on Fuzzy Systems : FUZZ-IEEE 2007 : London, 23.-26. July 2007 2007 / [6] p <https://ieeexplore.ieee.org/document/4295370>

**Interpretability versus adaptability in fuzzy systems**  
**Riid, Andri; Rüstern, Ennu** Proceedings of the Estonian Academy of Sciences. Engineering 2000 / 2, p. 76-95 : ill [https://artiklid.elnet.ee/record=b1004039\\*est](https://artiklid.elnet.ee/record=b1004039*est)

**Interpretability, interpolation and rule weights in linguistic Fuzzy modeling**  
**Riid, Andri; Rüstern, Ennu** Fuzzy Logic and Applications : 9th International Workshop, WILF 2011 : Trani, Italy, August 29-31, 2011 : proceedings 2011 / p. 91-98 : ill

**Military vehicle acoustic pattern identification by distributed ground sensors**  
**Astapov, Sergei; Riid, Andri; Preden, Jürjo-Sören** BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 167-170 : ill [http://www.ester.ee/record=b2150914\\*est](http://www.ester.ee/record=b2150914*est)

**Morphological cross entropy loss for improved semantic segmentation of small and thin objects**  
**Pihlak, Rene; Riid, Andri** Procedia computer science 2021 / p. 582-591 <https://doi.org/10.1016/j.procs.2021.08.060> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Mugavam elu kõigile: Eestis arendatud tehnoloogia aitab luua teid, mis ei lõhu autot**  
geenius.ee 2023 [Mugavam elu kõigile: Eestis arendatud tehnoloogia aitab luua teid, mis ei lõhu autot](#)

**Multi-modal sensor data fusion in city environment monitoring projects SMENETE and IMO**  
**Kaugerand, Jaanus; Ehala, Johannes; Riid, Andri; Preden, Jürjo-Sören; Udal, Andres** COST Action CA16101 MULTI-modal : Imaging of FOREnsic SciEnce Evidence tools for Forensic Science : Grant Period 2 Conference, 5-8 November 2018, Dubrovnik, Croatia. Forensic Imaging Techniques - an exploration of their potential as standalone tools and within a multimodal approach : book of abstracts 2018 / p. 36-37 : ill

**Object detection for military surveillance using distributed multimodal smart sensors**  
**Astapov, Sergei; Preden, Jürjo-Sören; Ehala, Johannes; Riid, Andri** 2014 19th International Conference on Digital Signal Processing 2014 / p. 366-371 : ill

**On the representation and interpretation of linguistic fuzzy systems**  
**Riid, Andri; Rüstern, Ennu** Proceedings of the third IASTED International Conference on Artificial Intelligence and Applications - AIA 2003 : Benalmadena, Spain, September 8-10, 2003 2003 / p. 88-93

### **Pavement defect segmentation in orthoframes with a pipeline of three convolutional neural networks**

**Lõuk, Roland; Riid, Andri; Pihlak, Rene; Tepljakov, Aleksei** Algorithms 2020 / art. 198, 27 p. : ill <https://doi.org/10.3390/a13080198>  
[Journal metrics at scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Pavement distress detection with deep learning using the orthoframes acquired by a mobile mapping system**

**Riid, Andri; Lõuk, Roland; Pihlak, Rene; Tepljakov, Aleksei; Vassiljeva, Kristina** Applied sciences 2019 / art. 4829, 22 p. : ill  
<https://doi.org/10.3390/app9224829> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Performing feature extraction and selection for pattern discovery in noisy acoustic data**

**Astapov, Sergei; Riid, Andri; Preden, Jürjo-Sören** Doctoral School in Information and Communication Technology : proceedings of doctoral session of BEC 2014 : October 6-8 2014, Laulasmaa 2014 / p. 3-6 : ill

### **Redundancy detection and removal in Mamdani Fuzzy Systems**

**Riid, Andri; Saastamoinen, Kalle; Rüstern, Ennu** Proceedings of the Eighth International Conference on Applications of Fuzzy Systems and Soft Computing : Helsinki, Finland, 1-3 September 2008 2008 / p. 131-140

### **Redundancy detection and removal tool for transparent Mamdani systems**

**Riid, Andri; Saastamoinen, Kalle; Rüstern, Ennu** Intelligent systems : from theory to practice 2010 / p. 397-415

### **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](#)

### **Situation awareness for networked systems**

**Preden, Jürjo-Sören; Mõtus, Leo; Meriste, Merik; Riid, Andri** 2011 IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support : CogSIMA : Miami, USA, 22-24 Februar 2011 2011 / p. 123-130 : ill

### **Situation awareness via Internet of things and in-network data processing**

**Ehala, Johannes; Kaugerand, Jaanus; Pahtma, Raido; Astapov, Sergei; Riid, Andri; Tomson, Timo; Preden, Jürjo-Sören; Mõtus, Leo** International journal of distributed sensor networks 2017 / p. 1-21 : ill <https://doi.org/10.1177/1550147716686578>

### **Smart elevator with unsupervised learning for visitor profiling and personalised destination prediction**

**Leier, Mairo; Riid, Andri; Alumäe, Tanel; Pihlak, Rene; Udal, Andres; Heinsar, Risto; Vainküla, Sven** 2021 IEEE International Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA) : Virtual Conference, 14-22 May 2021 : proceedings 2021 / p. 9-16 <https://doi.org/10.1109/CogSIMA51574.2021.9475921>

### **S-type Lukasiewicz equivalences in medical data classification**

**Saastamoinen, Kalle; Riid, Andri** Proceedings of the Eighth International Conference on Applications of Fuzzy Systems and Soft Computing : Helsinki, Finland, 1-3 September 2008 2008 / p. 231-238

### **Supervisory fed-batch fermentation control on the basis of linguistically interpretable fuzzy models**

**Riid, Andri; Rüstern, Ennu** Proceedings of the Estonian Academy of Sciences. Engineering 2000 / 2, p. 96-112 : ill  
[https://artiklid.elnet.ee/record=b1004040\\*est](https://artiklid.elnet.ee/record=b1004040*est)

### **Taevarahvas : Poul Andersoni parimad jutud**

**Anderson, Poul** 2008 [https://www.ester.ee/record=b2335964\\*est](https://www.ester.ee/record=b2335964*est)

### **Takagi-Sugeno systems with improved interpretability and interpolation using a complementary interpolation model**

**Riid, Andri; Rüstern, Ennu** Proceedings of the IEEE 4th International Conference on Intelligent System Design and Applications : Budapest, Hungary, 2004. Vol. 1 2004 / p. 259-264 : ill

### **Tehistaip aitab ehitada autosõbralikke teid**

**Imeline Teadus** 2023 / lk. 21 : fot [https://www.ester.ee/record=b2747925\\*est](https://www.ester.ee/record=b2747925*est)

### **The benefits of self-awareness and attention in fog and mist computing**

**Preden, Jürjo-Sören; Tammemäe, Kalle; Jantsch, Axel; Leier, Mairo; Riid, Andri; Calis, Emine** Computer 2015 / p. 37-45 : ill

### **Transparency analysis of first-order Takagi-Sugeno systems**

**Riid, Andri; Isotamm, Raul; Rüstern, Ennu** 10th International Conference on System-Modeling-Control : Zakopane, Poland, May 21-25, 2001 : proceedings. Vol. 2 2001 / p. 165-170 : ill

### **Transparency enhancement of first order Takagi-Sugeno systems: promoting of the competition between the rules by controlling the overlap of input fuzzy sets**

**Riid, Andri; Isotamm, Raul; Rüstern, Ennu** BEC 2002 : proceedings of the 8th Biennial Baltic Electronics Conference : October 6-9, 2002, Tallinn, Estonia 2002 / p. 137-140 : ill

**Transparent fuzzy systems : modeling and control**

**Riid, Andri** 2002 [https://www.eester.ee/record=b1646015\\*est](https://www.eester.ee/record=b1646015*est)

**Transparent fuzzy systems and modelling with transparency protection**

**Riid, Andri; Rüstern, Ennu** IFAC Symposium on Artificial Intelligence in Real Time Control : AIRTC-2000 : October 2-4, 2000, Budapest, Hungary : preprints 2000 / p. 229-234 : ill

**Transparent fuzzy systems in modeling and control**

**Riid, Andri; Rüstern, Ennu** Interpretability issues in fuzzy modeling 2002 / p. 452-476

**A two-stream context-aware ConvNet for pavement distress detection**

**Lõuk, Roland; Tepljakov, Aleksei; Riid, Andri** 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020 / p. 270-273 : ill <https://doi.org/10.1109/TSP49548.2020.9163538>

**Unsupervised learning of well drilling operations : fuzzy rule-based approach**

**Riid, Andri; Saadallah, Nejm** Proceedings : INES 2012 : IEEE 16th International Conference on Intelligent Engineering Systems : June 13-15, 2012 Lisbon, Portugal 2012 / p. 375-380 : ill  
[https://www.researchgate.net/publication/258568174\\_Unsupervised\\_Learning\\_of\\_Well\\_Drilling\\_Operations\\_Fuzzy\\_Rule-Based\\_Approach](https://www.researchgate.net/publication/258568174_Unsupervised_Learning_of_Well_Drilling_Operations_Fuzzy_Rule-Based_Approach)

**Vehicle guidance systems in NEC context**

**Preden, Jürjo-Sören; Serg, Risto; Riid, Andri; Mõtus, Leo; Pahtma, Raido** Proceedings : SCI-202 Symposium on Intelligent Uninhabited Vehicle Guidance Systems : München, 30 June - 2 July 2009 2009 / p. 4-1 - 4-13