

A tool for flexible planning of rescue routes

Vain, Jüri; Ernits, Juhan-Peep; Littover, Mati; Randvee, Ingmar; **Riismaa, Tiit** IFAC Workshop on Control in Natural Disasters : CND'98 : September 21-22, 1998, Tokyo, Japan : preprints 1998 / p. 101-106 : ill

A tool-supported approach for introducing aspects in UPPAAL timed automata

Truscan, Dragos; **Vain, Jüri;** Koskinen, Martin; Iqbal, Junaid Software technologies : 9th International Joint Conference, ICSoft 2014, Vienna, Austria, August 29-31, 2014 : revised selected papers 2015 / p. 349-364 http://dx.doi.org/10.1007/978-3-319-25579-8_20

An open tool integration environment for manufacturing control software development

Küttner, Rein; Ernits, Juhan-Peep; **Vain, Jüri** Machine engineering 2003 / 1/2, Manufacturing flexibility design and development, p. 23-32 : ill

Analysis and recognition of a surgeon's motions in laparoscopic cholecystectomy giving a scrub nurse robot suitable timings for instrument exchange [Electronic resource]

Ohnuma, K.; Nasamune, K.; Yoshimitsu, Kitaro; **Vain, Jüri;** Fukui, Y.; Miyawaki, F. Proceedings of the 3rd COE Workshop on Human Adaptive Mechatronics (HAM) : 3-4 March 2006, Tokyo Denki University, Japan 2006 / [5] p. [CD-ROM]

Application of bidding automata for measuring the informativeness of hand motion characteristic features

Parm, Kenno; Nõmm, Sven; **Vain, Jüri** BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 205-208 : ill

Application of self organizing Kohonen Map to detection of surgeon motions during endoscopic surgery

Petlenkov, Eduard; Nõmm, Sven; **Vain, Jüri;** Miyawaki, Fujio 2008 International Joint Conference on Neural Networks (IJCNN2008), 2008 IEEE World Congress on Computational Intelligence (WCCI2008) : June 1-6, 2008, Hong Kong 2008 / p. 2807-2812

Application of volume bounding box decomposition for surgeon's hand gestures recognition

Nõmm, Sven; Leibak, Alar; **Vain, Jüri;** Miyawaki, Fujio IECON 2010 : 36th Annual Conference on IEEE Industrial Electronics Society : Glendale, Arizona, USA, 07 - 10 November, 2010 : proceedings 2010 / p. 1076-1080 : ill
<https://ieeexplore.ieee.org/document/5675518>

Application of volume bounding box decomposition for surgeon's hand gestures recognition

Nõmm, Sven; Leibak, Alar; **Vain, Jüri;** Miyawaki, Fujio Abstracts IECON 2010 - ICELIE 2010 : 36th Annual Conference of the IEEE Industrial Electronics Society, 4th International Conference on E-Learning in Industrial Electronics, IES Industry Forum 2010 : Arizona, USA, 7-10 November 2010 2010 / p. 102 <https://ieeexplore.ieee.org/document/5675518>

Aspect-oriented Model-based testing with UPPAAL timed automata

Vain, Jüri; Tsiopoulos, Leonidas; **Kanter, Gert** Model and Data Engineering : 10th International Conference, MEDI 2021, Tallinn, Estonia, June 21-23, 2021 : proceedings 2021 / p. 117-124 https://doi.org/10.1007/978-3-030-78428-7_10 [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Aspect-oriented testing of a rehabilitation system

Sarna, Külli; **Vain, Jüri** VALID 2014 : the Sixth International Conference on Advances in System Testing and Validation Lifecycle : October 12-16, 2014, Nice, France 2014 / p. 73-78 : ill

Automatic distribution of local testers for testing distributed systems

Vain, Jüri; Halling, Evelin; **Kanter, Gert;** Anier, Aivo; **Pal, Deepak** Databases and information systems IX : selected papers from the twelfth International Baltic Conference, DB&IS 2016 2016 / p. 297-310 : ill <http://dx.doi.org/10.3233/978-1-61499-714-6-297>

Case study-based performance evaluation of reactive planning tester

Kull, Andres; Raiend, Kullo; **Vain, Jüri;** Kääramees, Marko Model-based Testing in Practice : 2nd Workshop on Model-based Testing in Practice (MoTiP 2009) : Enschede, The Netherlands, June 23, 2009 : proceedings 2009 / p. 87-96 : ill
<https://www.etis.ee/Portal/Publications/Display/c507fc75-771f-419a-bf67-571af65fdb66>

Cloud computing with robots: does it make sense?

Matskin, Mihhail; Haverin, Janne; Roning, Juha; **Vain, Jüri** MDA4ServiceCloud'10 : Modeling, Design, and Analysis for the Service Cloud [Workshop, 4th ed., held in Paris, France on June 15, 2010] 2010 / [2] p

Combined method of load planning for production lines

Rennik, Heli; **Vain, Jüri** Machine engineering 2005 / 3/4, Manufacturing systems development : industry expectations, p. 153-165 : ill

Combining aspect-orientation and UPPAAL timed automata

Truscan, Dragos; **Vain, Jüri;** Koskinen, Martin ICSoft-PT 2014 : proceedings of the 9th International Conference on Software Paradigm Trends, Vienna, Austria, 29-31 August, 2014 2014 / p. 159-164 : ill

Combining conceptual modelling and formal methods to design control systems

Vain, Jüri; Hooman, J. Selected papers from the 8th Nordic Workshop on Programming Theory, University of Oslo, May, 1997 1997 / p. 109-118

Component based development of hybrid control systems

Vain, Jüri; Kuusik, Alar; Kääramees, Marko Proceedings of the 15th International Conference on CAD/CAM, Robotics & Factories of the Future CARSAMPFOF'99 : August 18-20, 1999, Aguas de Lindoia, Brasil. Vol. 2 1999 / p. RW5-1 - RW5-6

Component based technique for hybrid control systems design

Vain, Jüri; Kuusik, Alar; Kääramees, Marko Proceedings of the 11th Nordic Workshop on Programming Theory : NWPT'99 : Uppsala University, Sweden, October 6-8, 1999 1999 / p. 48

CONRAD - a system for evaluating behavioural properties of embedded software

Mõtus, Leo; Vain, Jüri Preprints 10th IFAC Workshop on Distributed Computer Control Systems, Semmering, Austria, Sept. 9-11, 1991 1991

Constraint-based test scenario description language

Vain, Jüri; Halling, Evelin BEC 2012 : 2012 13th Biennial Baltic Electronics Conference : proceedings of the 13th Biennial Baltic Electronics Conference : October 3-5, 2012, Tallinn, Estonia 2012 / p. 89-92 : ill

Construction of aspect models for model-based testing

Sarna, Külli; Vain, Jüri Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK viienda aastakonverentsi artiklite kogumik : 25.-26. novembril 2011, Nelijärve 2011 / p. 67-70 : ill

Design and verification of Cyber-Physical Systems using TrueTime, evolutionary optimization and UPPAAL

Balasubramanian, Sreeram; Srinivasan, Seshadhri; Buonopane, Furio; Balasubramanian, Subathra; **Vain, Jüri;** Ramaswamy, Srin Microprocessors and microsystems 2016 / p. 37-48 : ill <http://dx.doi.org/10.1016/j.micpro.2015.12.006>

Developing multi-view Contracts using Event-B and Uppaal Timed Automata

Vain, Jüri; Tsiopoulos, Leonidas; Guin, Jishu 2016 21st International Conference on Engineering of Complex Computer Systems : ICECCS 2016 : Dubai, United Arab Emirates, 6-8 November 2016 : proceedings 2016 / p. 126-134 : ill
<https://doi.org/10.1109/ICECCS.2016.024>

DTRON : a tool for distributed model-based testing of time critical applications

Anier, Aivo; Vain, Jüri; Tsiopoulos, Leonidas Proceedings of the Estonian Academy of Sciences 2017 / p. 75-88 : ill
<https://doi.org/10.3176/proc.2017.1.08> http://www.ester.ee/record=b2355998*est

Early detection of network attacks using deep learning

Ahmad, Tanwir; Truscan, Dragos; **Vain, Jüri;** Porres, Ivan 2022 IEEE 15th International Conference on Software Testing, Verification and Validation Workshops : ICSTW 2022, 4–13 April 2022, Virtual Event : proceedings 2022 / p. 30-39
<https://doi.org/10.1109/ICSTW55395.2022.00020> <https://arxiv.org/pdf/2201.11628.pdf>

Energy-efficient multi-fragment Markov model guided online model-based testing for MPSoC

Vain, Jüri; Tsiopoulos, Leonidas; Kharchenko, Vyacheslav; **Apneet Kaur; Jenihhin, Maksim; Raik, Jaan; Nömm, Sven** Green IT Engineering: Social, Business and Industrial Applications 2019 / p. 273-297 https://doi.org/10.1007/978-3-030-00253-4_12 [Article collection at Scopus](#) [Article at Scopus](#)

Euroopa Liidu 6. raamprogrammi teadusprojekt TTÜ vedamisel : [15.-17. nov. 2006 TTÜ Küberneetika Instituudis toimunud TTÜ ja ELIKO Tehnoloogia Arenduskeskuse algatatud ROBOSWARM projekti avakoosolekust]

Vain, Jüri Mente et Manu 2007 / lk. 2 https://artiklid.elnet.ee/record=b2366705*est

Executable black-box tester model synthesis from a non-deterministic EFSM of the system

Kull, Andres; Raiend, Kullo; Vain, Jüri Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK teise aastakonverentsi artiklite kogumik : 11.-12. mai 2007, Viinistu kunstimuuseum 2007 / lk. 105-108

Expanded underwater robotics ready for oil spill

Gilbert, Javier; Lopez-Castejon, F.; Rodríguez de Mesas, C.; **Ernits, Juhan-Peep; Vain, Jüri** Interspill 2018 - London : [proceedings] 2018 / 2 p <http://interspill.org/previous-events/2018/> <http://interspill.org/previous-events/2018/14March2018/3-Situational-Awareness/Expanded-Underwater-Robotics-J-Gilbert-UPCT-Cartagena.pdf>

Expanded underwater robotics ready for oil spills (e-URready4OS)

Gilbert, Javier; Sousa, João; Vukic, Zoran; **Ernits, Juhan-Peep; Vain, Jüri** Marine technology reporter 2018 / p. 24–33
<https://magazines.marinelink.com/Magazines/MarineTechnology/201803/content/expanded-underwater-robotics-535546>

Exploiting aspects in model-based testing

Sarna, Külli; Vain, Jüri FOAL'12 : proceedings of the eleventh workshop on Foundations of Aspect-Oriented Languages : March 26, 2012, Potsdam, German 2012 / p. 45-47 : ill

Foreword

Vain, Jüri; Uustalu, Tarmo Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2003 / 4, p. 334
https://artiklid.elnet.ee/record=b1014450*est

Formal development of multi-vessel navigation of maritime autonomous systems using UPPAAL STRatego

Shokri-Manninen, Fatima; **Vain, Jüri**; Walden, Marina 32nd Nordic Workshop on Programming Theory, NWPT 2021, Reykjavik, Iceland, and online, 4-6 November 2021 2021 / 4 p <http://icetcs.ru.is/nwpt21/abstracts/paper7.pdf> <http://icetcs.ru.is/nwpt21/programme.html>

Formal methods based security for cloud-based manufacturing cyber physical system

Muniasamy, Kandasamy; Srinivasan, Seshadhri; **Vain, Jüri**; Sethumadhavan, M. IFAC-PapersOnLine 2019 / p. 1198-1203
<https://doi.org/10.1016/j.ifacol.2019.11.361> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Formal safety validation of mobile robot teleoperation

Vain, Jüri; Suzuki, Satoshi; **Kuusik, Alar** BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 161-164 : ill

Formal specification of sensors

Kuusik, Alar; Vain, Jüri Ringhääling '99 : VI Rahvusvahelise Telekommunikatsioonipäeva konverentsi ettekannete materjalid 1999 / lk. 80-83

Formal Techniques for Networked and Distributed Systems - FORTE 2007 : 27th IFIP WG 6.1 International Conference : Tallinn, Estonia, June 27-29, 2007 : proceedings

Derrick, John; **Vain, Jüri** 2007 https://www.eester.ee/record=b2286028*est

Formal verification of COLREG-Based Navigation of maritime autonomous systems

Shokri-Manninen, Fatima; **Vain, Jüri**; Walden, Marina Software Engineering and Formal Methods : 18th International Conference, SEFM 2020, Amsterdam, The Netherlands, September 14-18, 2020 : Proceedings 2020 / p. 41-59 https://doi.org/10.1007/978-3-030-58768-0_3 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Formal verification of maritime autonomous systems using UPPAAL STRatego

Shokri-Manninen, Fatima; **Vain, Jüri**; Walden, Marina 31st Nordic Workshop on Programming Theory, NWPT 2019, Tallinn, Estonia, 13-15 November 2019 : abstracts 2019 / p. 58-61 : ill <https://doi.org/10.23658/taltech.nwpt/2019>

14th Nordic Workshop on Programming Theory : NWPT 2002, Tallinn, Estonia, 20-22 November 2002 : abstracts

Vain, Jüri; Uustalu, Tarmo 2002 https://www.eester.ee/record=b1710210*est

FPGA-based critical computing : TEMPUS and FP7 projects issues

Kharchenko, Vyacheslav; **Vain, Jüri**; **Krispin, Madli** 10th European Workshop on Microelectronics Education : EWME 2014 : May 14-16, 2014, Tallinn, Estonia 2014 / p. 74-79 : ill

Generating optimal test cases for real-time systems using DIVINE model checker

Pal, Deepak; **Vain, Jüri** 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. 99-102 : ill
http://www.eester.ee/record=b2150914*est

Generating tests from EFSM models using guided model checking and iterated search refinement

Ernits, Juhan-Peep; Kull, Andres; Raiend, Kullo; **Vain, Jüri** Formal Approach to Software Testing and Runtime Verification : First Combined International Workshops FATES 2006 and RV 2006 : Seattle, WA, USA, August 15-16, 2006 : revised selected papers 2006 / p. 85-99 https://link.springer.com/chapter/10.1007/11940197_6

Generating TTCN-3 test cases from EFSM models of reactive software using model checking

Ernits, Juhan-Peep; Kull, Andres; Raiend, Kullo; **Vain, Jüri** Informatik 2006 - Informatik für Menschen : proceedings : Beiträge der 36. Jahrestagung der Gesellschaft für Informatik e.V.(GI) : 2.bis 6.Oktober in Dresden 2006 / p. 241-248

Guest editors' foreword

Uustalu, Tarmo; Vain, Jüri Journal of logical and algebraic methods in programming 2016 / p. 1109
<http://dx.doi.org/10.1016/j.jlamp.2016.10.004>

Handling industrial hazards by pre-emptive model checking [Electronic resource]

Kuusik, Alar; Otto, Tauno; Vain, Jüri 4th International Conference on Industrial Automation : June 9-11, 2003, Montreal, Canada : proceedings 2003 / [4] p. : ill. [CD-ROM]

A human-adaptive-mechatronics assisted system for training constructional ability

Miyashita, O.; Tsukamoto, S.; **Kuusik, Alar**; Miyata, D.; Yoshida, T.; **Vain, Jüri**; Ishigami, S. Proceedings of the 8th International Conference on Mechatronics Technology : ICMT2004 : Hanoi, Vietnam, November 8-12, 2004 2004 / p. 551-555

Human-robot interaction learning using timed automata

Vain, Jüri; Miyawaki, Fujio; **Nõmm, Sven**; Totskaya, Tatiana; **Anier, Aivo** ICCAS-SICE 2009 : ICROS-SICE International Joint Conference 2009 : Fukuoka City, Japan, August 18-21, 2009 : final program and papers 2009 / p. 2037-2043
<https://ieeexplore.ieee.org/document/5334368>

Hübriidsed dünaamilised süsteemid - füüsikaline reaalsus või insenerlik abstraktsioon : ettekanne XL automaatikapäeval 12. märtsil 2002 TTÜ aulas

Vain, Jüri Tallinna Tehnikaülikooli aastaraamat 2002 2003 / lk. 218-221

Hybrid approach to detection of the surgeon's hand motions during endoscope surgery

Nõmm, Sven; **Vain, Jüri**; **Petlenkov, Eduard**; Miyawaki, Fujio; Yoshimitsu, Kitaro ICIEA : 4th IEEE Conference on Industrial Electronics and Applications : Xi'an, 25-27 May 2009 2009 / p. 3488-3492 <https://ieeexplore.ieee.org/abstract/document/5138854>

Infosüsteemi projekti käivitamisest

Littover, Mati; **Vain, Jüri** Arvutustehnika ja Andmetöötlus 1994 / 5, lk. 27-40 ; 6, lk. 25-31 ; 7/8, lk. 30-43 ; 9, lk. 39-42 ; 10, lk. 30-38 ; 11, lk. 27-37 ; 12, lk. 30-40

Integrated technique for developing real-time systems

Hooman, J.; **Vain, Jüri** Journal of system architecture 1996

Integrating methods for the design of real-time systems

Vain, Jüri Abstracts of NWPT'96, Oslo 1996 1996 / p. 32

Integrating refinement-based methods for developing timed systems

Vain, Jüri; Tsiopoulos, Leonidas; Boström, Pontus From action systems to distributed systems : the refinement approach 2016 / p. 171-185 <http://dx.doi.org/10.1201/b20053-17>

Integration of 'Central' and 'Peripheral' Nervous Systems in Scrub Nurse Robot and Comparison Between 'Voluntary' and 'Reflex' Movements

Miyawaki, Fujio; Suzuki, Miho; Anier, Aivo; **Vain, Jüri** IFAC-PapersOnLine 2019 / p. 229-234 : ill
<https://doi.org/10.1016/j.ifacol.2019.12.103> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Integration of iUML-B and UPPAAL timed automata for development of real-time systems with concurrent processes

Shokri-Manninen, Fatima; **Tsiopoulos, Leonidas**; **Vain, Jüri**; Walden, Marina Rigorous State-Based Methods 7th International Conference, ABZ 2020, Ulm, Germany, May 27–29, 2020 : proceedings 2020 / p. 186-202 https://doi.org/10.1007/978-3-030-48077-6_13 [Conference proceedings at Scopus](#) [Article at Scopus](#)

International summer school on real-time, fault-tolerance and artificial intelligence : Neeruti, June 30 - July 2, 1992

Vain, Jüri Eesti Teaduste Akadeemia Toimetised. Füüsika. Matemaatika 1992 / 4, lk. 288-290

IT Akadeemia toel atraktiivse õppekava ja motiveeritud tudengiteni

Vain, Jüri; **Vaarmets, Elena** Studiosus 2014 / lk. 10-11 https://www.ester.ee/record=b1558644*est

Jüri Vain: tehisintellekt on palju enamat kui masinõpe

Vain, Jüri err.ee 2023 [Jüri Vain: tehisintellekt on palju enamat kui masinõpe](#)

Learning based personalized energy management systems for residential buildings

Soudari, Mallikarjun; Srinivasan, Seshadhri; Balasubramanian, Subathra; **Vain, Jüri**; **Kotta, Ülle** Energy and buildings 2016 / p. 953-968 : ill <http://dx.doi.org/10.1016/j.enbuild.2016.05.059>

Learning timed automata from interaction traces

Vain, Jüri; **Kanter, Gert**; **Anier, Aivo** IFAC-PapersOnLine 2019 / p. 205-210 <https://doi.org/10.1016/j.ifacol.2019.12.097> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Model based approach for testing: distributed real-time systems augmented with online monitors

Pal, Deepak; **Vain, Jüri** Databases and Information Systems : 13th International Baltic Conference, DB&IS 2018, Trakai, Lithuania, July 1-4, 2018 : proceedings 2018 / p. 142-157 https://doi.org/10.1007/978-3-319-97571-9_13 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Model based continual planning and control framework for assistive robots

Anier, Aivo; **Vain, Jüri** PECCS 2012 : final program and book of abstracts : 2nd International Conference on Pervasive and Embedded Computing and Communication Systems, Rome, Italy, 24-26 February, 2012 2012 / p. 45
<https://www.scitepress.org/Papers/2012/38271/38271.pdf>

Model based continual planning and control framework for assistive robots

Anier, Aivo; Vain, Jüri PECCS 2012 : proceedings of the 2nd International Conference on Pervasive and Embedded Computing and Communication Systems, Rome, Italy, 24-26 February, 2012 / p. 403-406
<https://www.scitepress.org/Papers/2012/38271/38271.pdf>

Model based continual planning and control framework for assistive robots

Anier, Aivo; Vain, Jüri HEALTHINF 2012 : proceedings of the International Conference on Health Informatics, Vilamoura, Algarve, Portugal, 1-4 February, 2012 / p. 382-385 <https://www.scitepress.org/Papers/2012/38271/38271.pdf>

Model based framework for testing distributed systems

Pal, Deepak; Vain, Jüri Proceedings of the 8th Annual Conference of the Estonian National Doctoral School in Information and Communication Technologies : December 5-6, 2014, Rakvere 2014 / p. 91-94 : ill

Model based Test framework for communications-critical internet of things systems

Pal, Deepak; Vain, Jüri Databases and information systems X : selected papers from the thirteenth International Baltic Conference, DB&IS 2018 2019 / p. 79-94 https://www.ester.ee/record=b5203991*est <https://doi.org/10.3233/978-1-61499-941-6-79> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Model based testing of distributed time critical systems

Vain, Jüri; Kanter, Gert; Srinivasan, Seshadri 2017 6th International Conference on Reliability, Infocom Technologies and Optimization (Trends and Future Directions) (ICRITO 2017) : Noida, India 20-22 September 2017 / p. 99-105 : ill
<https://doi.org/10.1109/ICRITO.2017.8342406>

Model checking - a new challenge for design of complex computer-controlled systems [Electronic resource]

Vain, Jüri; Küttner, Rein 5th International Conference on Engineering Design and Automation 2001 : EDA Conference : Las Vegas, Nevada, USA : (referred conference papers) 2001 / p. 593-598 : ill. [CD-ROM]

Model checking emerging behavior properties of robot swarms

Juurik, Silver; **Vain, Jüri** 21st Nordic Workshop on Programming Theory : NWPT 2009 : Lyngby, Denmark, 14-16 October 2009 : proceedings 2009 / p. 68-70
https://www.researchgate.net/publication/228525009_Model_checking_of_emergent_behaviour_properties_of_robot_swarms

Model checking for planning resource-sharing production

Vain, Jüri; Otto, Tauno; Kuusik, Alar Proceedings 20th International Conference on CAD/CAM, Robotics and Factories of the Future : July 21, 22 and 23, 2004, San Cristobal - Venezuela 2004 / p. 151-158

Model checking in pattern based control systems design

Vain, Jüri; Ernits, Juhan-Peep 15th Triennial World Congress of the International Federation of Automatic Control : Barcelona, Spain, 21th-26th July, 2002 : final program, book of abstracts 2002 / p. 112

Model checking in pattern based control systems design [Electronic resource]

Vain, Jüri; Ernits, Juhan-Peep Proceedings of the 15th IFAC World Congress : Barcelona, Spain, 2002 2002 / [6] p. : ill. [CD-ROM]

Model checking in planning resource-sharing based manufacturing

Otto, Tauno; Vain, Jüri Information Control Problems in Manufacturing 2006 : a proceedings volume from the 12th IFAC International Symposium : St.Etienne, France. 2 2006 / p. 523-528 <https://www.sciencedirect.com/science/article/pii/S1474667015359991>

Model checking in planning resource-sharing based manufacturing

Otto, Tauno; Vain, Jüri 12th IFAC Symposium on Information Control Problems in Manufacturing : preprints. Vol. II, Industrial Engineering 2006 / p. 535-540 <https://www.sciencedirect.com/science/article/pii/S1474667015359991>

Model checking of emergent behaviour properties of robot swarms

Juurik, Silver; Vain, Jüri Proceedings of the Estonian Academy of Sciences 2011 / 1, p. 48-54 : ill
https://www.researchgate.net/publication/228525009_Model_checking_of_emergent_behaviour_properties_of_robot_swarms

Model checking response times in Networked Automation Systems using jitter bounds

Srinivasan, Seshadri; Buonopane, Furio; **Vain, Jüri;** Ramaswamy, Srini Computers in industry 2015 / p. 186-200
<http://dx.doi.org/10.1016/j.compind.2015.06.012>

Model driven engineering in automatic test generation

Domiczi, E.; **Vain, Jüri** Proceedings of the NWUML'2005 : The Nordic Workshop on UML and Software Modeling 2005 / p. 208-216

Model learning for reactive motion planning in assisting robots

Vain, Jüri; Miyawaki, Fujio Modelling, Identification and Control (MIC2008) : February 11-13, 2008, Innsbruck, Austria 2008 / p. 596-809

Model-based analysis of secure and patient-dependent pacemaker monitoring system

Tsiopoulos, Leonidas; Kuusik, Alar; Vain, Jüri; Bahsi, Hayret Body Area Networks. Smart IoT and Big Data for Intelligent Health : 15th EAI International Conference, BODYNETS 2020, Tallinn, Estonia, October 21, 2020 : proceedings 2020 / p. 77-91
https://doi.org/10.1007/978-3-030-64991-3_6 [Journal metrics at scopus](#) [Article at Scopus](#)

A model-based approach for design and verification of Industrial Internet of Things

Muthukumar, Natarajan; Srinivasan, Seshadhri; Ramkumar, Kannan; **Pal, Deepak; Vain, Jüri**; Ramaswamy, Srini Future generation computer systems 2019 / p. 354-363 : ill <https://doi.org/10.1016/j.future.2018.12.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Model-based integration testing of ROS packages : a mobile robot case study

Ernits, Juhan-Peep; Halling, Evelin; Kanter, Gert; Vain, Jüri 2015 European Conference on Mobile Robots : Lincoln, United Kingdom, September 2-4, 2015 : conference proceedings 2015 / [7] p. : ill <http://dx.doi.org/10.1109/ECMR.2015.7324210>

Model-based maintenance scheduling in flexible modular automation systems

Pal, Deepak; Vain, Jüri; Srinivasan, Seshadhri; Ramaswamy, Srini 2017 22nd IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2017) : Limassol, Cyprus, 12 - 15 September 2017 : pages 1-678 2017 / p. 1203-1208 : ill <http://doi.org/10.1109/ETFA.2017.8247738>

Model-based synthesis of reactive planning on-line testers for non-deterministic embedded systems

Kääramees, Marko; Vain, Jüri; Raiend, Kullo BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 189-192 : ill

Model-based testing of autonomous robots using TestIt

Kanter, Gert; Vain, Jüri Journal of reliable intelligent environments 2020 / p. 15-30 <https://doi.org/10.1007/s40860-019-00095-w> [Journal metrics at Scopus](#) [Article at Scopus](#)

Model-based testing of real-time distributed systems

Vain, Jüri; Halling, Evelin; Kanter, Gert; Anier, Aivo; Pal, Deepak Databases and Information Systems : 12th International Baltic Conference, DB&IS 2016, Riga, Latvia, July 4-6, 2016 : proceedings 2016 / p. 272-286 : ill http://dx.doi.org/10.1007/978-3-319-40180-5_19

Modeling for multi-view interference analysis of design aspects in MPSoC designs

Vain, Jüri; Apneet Kaur; Tsiopoulos, Leonidas; Raik, Jaan; Jenihhin, Maksim RESCUE 2017 : Workshop on Reliability, Security and Quality : ETS17 Fringe Workshop, May 25-26, 2017, Limassol, Cyprus 2017 / p. 1-6
<http://www.ets17.org.cy/workshop/rescue-workshop.html>

Modelling critical systems with timing constraints in Event-B [Electronic resource]

Siavashi, Faezeh; Waldén, Marina; Tsiopoulos, Leonidas; **Vain, Jüri** 25th Nordic Workshop on Programming Theory NWPT 2013 : Tallinn, Estonia, 20-22 November 2013 : abstracts 2013 / p. 70-72 : ill [USB]

Multi-fragment Markov model guided online test generation for MPSoC

Vain, Jüri; Tsiopoulos, Leonidas; Kharchenko, Vyacheslav; **Apneet Kaur**; Jenihhin, Maksim; Raik, Jaan ICTERI 2017 : ICT in Education, Research and Industrial Applications. Integration, Harmonization and Knowledge Transfer : proceedings of the 13th International Conference on ICT in Education, Research and Industrial Applications. Integration, Harmonization and Knowledge Transfer, Kyiv, Ukraine, May 15-18, 2017 2017 / p. 594-607 : ill <http://www.scopus.com/inward/record.uri?eid=2-s2.0-85020540459&partnerID=40&md5=af226e25c344c52689f23bf5c39cc267> <http://ceur-ws.org/Vol-1844/10000594.pdf>

Multi-view modeling for MPSoC design aspects [Online resource]

Vain, Jüri; Apneet Kaur; Tsiopoulos, Leonidas; Raik, Jaan; Jenihhin, Maksim 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.2018.8600986>

On mutating UPPAAL timed automata to assess robustness of web services

Siavashi, Faezeh; Truscan, Dragos; **Vain, Jüri** Proceedings of the 11th International Joint Conference on Software Technologies (ICSOT 2016). Vol. 1, ICSOT-EA 2016 / p. 15-26 : ill <http://dx.doi.org/10.5220/0005970800150026>

Online testing of nondeterministic systems with the reactive planning tester

Vain, Jüri; Kääramees, Marko; Markvardt, Maili Dependability and computer engineering : concepts for software-intensive systems 2012 / p. 113-150 : ill

Optimization of the structure of multi-parameter multi-level selection

Littover, Mati; Randvee, Ingmar; Riismaa, Tiit; **Vain, Jüri** 17th International Conference on CAD/CAM, Robotics and Factories of the Future : CARS & FOF 2001 : Durban, South Africa, 10th-12th July 2001 : proceedings. Volume 1 2001 / p. 317-322 : ill

Pattern based analysis of fractal manufacturing systems [Electronic resource]

Jääger, Kadi; **Vain, Jüri** INCOM 2004 : 11th IFAC Symposium on Information Control Problems in Manufacturing : Salvador, Brasil,

April 5-7, 2004 : preprints proceedings 2005 / [6] p. [CD-ROM]

Pattern-based modeling and planning of machining systems

Jääger, Kadi; **Vain, Jüri** Machine engineering 2004 / 1/2, p. 97-106

Preface

Uustalu, Tarmo; Vain, Jüri 31st Nordic Workshop on Programming Theory, NWPT 2019, Tallinn, Estonia, 13-15 November 2019 : abstracts 2019 / p. iii <https://doi.org/10.23658/taltech.nwpt/2019>

Preface

Bellatreche, Ladjel; Chernishev, George; Corral, Antonio; Ouchani, Samir; **Vain, Jüri** Advances in Model and Data Engineering in the Digitalization Era : MEDI 2021 International Workshops : DETECT, SIAS, CSMML, BIOC, HEDA, Tallinn, Estonia, June 21-23, 2021 : proceedings 2021 / p. v-vii <https://link.springer.com/content/pdf/bfm:978-3-030-87657-9/1?pdf=chapter%20toc> [Article collection metrics at Scopus](#) [Article at Scopus](#)

Preface

Johri, Prashant; Anand, Adarsh; **Vain, Jüri**; Singh, Jagvinder; Quasim, Mohammad Tabrez System assurances : modeling and management 2022 <https://doi.org/10.1016/B978-0-323-90240-3.09998-7>

Provably correct aspect-oriented modeling with UPPAAL timed automata

Vain, Jüri; Tsiopoulos, Leonidas; Kanter, Gerd System assurances : modeling and management 2022 / p. 447-476 <https://doi.org/10.1016/B978-0-323-90240-3.00025-4>

Provably correct configuration management of precision feeding in Agriculture4.0

Kanter, Gert; Vain, Jüri; Srinivasan, Seshadhri; Ramaswamy, Srinu 2019 IEEE International Conference on Systems, Man and Cybernetics (SMC) 2019 / p. 1631-1637 : ill <https://doi.org/10.1109/SMC.2019.8914057>

Provably correct test development for timed systems

Vain, Jüri; Anier, Aivo; Halling, Evelin Databases and information systems VIII : selected papers from the Eleventh International Baltic Conference, DB&IS 2014 2014 / p. 289-302 : ill

Provably correct test generation for online testing of timed systems

Vain, Jüri; Anier, Aivo; Halling, Evelin Databases and Information Systems : proceedings of the 11th International Baltic Conference, Baltic DB&IS 2014 : Tallinn, Estonia, 8-11 June, 2014 2014 / p. 337-348 : ill

Põhjamaade programmeerimisteoreetikud Eestis : [TTÜ arvutiteaduse instituudi ja Küberneetika Instituudi korraldatud konverentsist "Nordic Workshop on Programming Theory (NWPT) 2002. a.]

Vain, Jüri Mente et Manu 2003 / 14. jaan., lk. 3 : fot https://www.ester.ee/record=b1242496*est

Reactive testing of nondeterministic systems by test purpose-directed tester

Vain, Jüri; Kull, Andres; Käärmees, Marko; Markvardt, Maili; Raiend, Kullo Model-based testing for embedded systems 2012 / p. 425-452 : ill

Recognition of the surgeon's motions during endoscopic operation by statistics based algorithm and neural networks based ANARX models

Nõmm, Sven; Petlenkov, Eduard; Vain, Jüri; Belikov, Juri; Miyawaki, Fujio; Yoshimitsu, Kitaro Proceedings of the 17th World Congress The International Federation of Automatic Control : Seoul, Korea, July 6-11, 2008 2008 / p. 14773-14778

Reconstructing timed symbolic traces from rtico-based timed test sequences using backward induction

Iqbal, Junaid; Truscan, Dragos; **Vain, Jüri**; Porres, Ivan Proceedings of the Fifth European Conference on the Engineering of Computer-Based Systems 2017 / 10 pages : ill <http://www.scopus.com/inward/record.uri?eid=2-s2.0-85030308212&doi=10.1145%2f3123779.3123813&partnerID=40&md5=f8e67104732f8b81c63e00a4dbaf645e>

Refinement-based development of timed systems

Berthing, Jesper; Boström, Pontus; Sere, Kaisa; Tsiopoulos, Leonidas; **Vain, Jüri** Integrated Formal Methods : 9th International Conference IFM 2012 : Pisa, Italy, June 18-21, 2012 : proceedings 2012 / p. 69-83 : ill https://link.springer.com/chapter/10.1007/978-3-642-30729-4_6

RFID-based communications for a self-organizing robot swarm

Tammet, Tanel; Vain, Jüri; Puusepp, Andres; Reilent, Enar; Kuusik, Alar SASO 2008 : Second IEEE International Conference on Self-Adaptive and Self-Organizing Systems : 20-24 October, 2008, Venice, Italy : proceedings 2008 / p. 45-54

RFID-based knowledge space for service robot swarms [Electronic resource]

Tammet, Tanel; Vain, Jüri; Kuusik, Alar Proceedings of the 3rd COE Workshop on Human Adaptive Mechatronics (HAM) : 3-4 March 2006, Tokyo Denki University, Japan 2006 / [6] p. [CD-ROM]

Robot kirurgias

Vain, Jüri Horisont 2009 / 1, lk. 39-41 : ill https://artiklid.elnet.ee/record=b1069483*est

Robot swarms

Vain, Jüri Integrated systems and design : interstudy, May 9, 2008 2008 / p. 54-64 : ill

Robotite oskused järjest paranevad

Toomla, Silver; **Vain, Jüri** Äripäev 2007 / 12. veebr., lk. 28

Robotite parved

Vain, Jüri Horisont 2007 / 3, lk. 46-47 : ill https://artiklid.elnet.ee/record=b2040577*est

Safety verification of degrading mechatronic systems

Vain, Jüri; Kuusik, Alar; Kaljas, Frid The Fourth International Conference on Machine Automation : Human-Friendly Reliable Mechatronics, September 11-13, 2002, Tampere, Finland : proceedings of the ICMA'02 2002 / p. 615-622 : ill

Scheme development for specification hybrid components of control systems

Vain, Jüri; Kuusik, Alar; Kääramees, Marko CAx Techniques : proceedings of the 4th International Scientific Colloquium : Bielefeld, Germany, September 13-15, 1999 1999 / p. 483-491

Scrub nurse robot system - intraoperative motion analysis of a scrub nurse and timed-automata-based model for surgery

Miyawaki, Fujio; Masamune, Ken; Suzuki, Satoshi; Yoshimitsu, Kitaro; **Vain, Jüri** IEEE transactions on industrial electronics 2005 / 5, p. 1227-1235 : ill <https://ieeexplore.ieee.org/abstract/document/1512454>

(Semi-)Automatic generation of Uppaal models for model checking embedded control systems

Ernits, Juhan-Peep; Vain, Jüri 14th Nordic Workshop on Programming Theory : NWPT 2002, Tallinn, Estonia, 20-22 November 2002 : abstracts 2002 / p. 45-46

Software architecture for swarm mobile robots

Vain, Jüri; Tammet, Tanel; Kuusik, Alar; Reilent, Enar BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 231-234 : ill

Solving line balancing problems with model checking

Vain, Jüri; Randvee, Ingmar; Riismaa, Tiit; Ernits, Juhan-Peep Proceedings of the Estonian Academy of Sciences. Engineering 2002 / 4, p. 211-222 : ill https://artiklid.elnet.ee/record=b1011298*est

Specification of hybrid components of control systems

Vain, Jüri; Kuusik, Alar; Kääramees, Marko Preprints of the 5th IFAC Workshop on Intelligent Manufacturing Systems IMS'98, November 9-11 1998, Gramado - RS, Brazil 1998 / p. 83-88: ill

Supervised training of voting automata for the surgeon's motion recognition during laparoscope surgery

Vain, Jüri; Nõmm, Sven; Anier, Aivo; Miyawaki, Fujio; Totskaya, Tatiana IEEE International Conference on Control and Automation : ICCA 2009 : Christchurch, New Zealand, December 9-11, 2009 2009 / p. 1503-1508

Synthesis of on-line planning tester for non-deterministic EFSM models

Kääramees, Marko; Vain, Jüri; Raiend, Kullo Testing - Practice and Research Techniques : 5th International Academic and Industrial Conference TAIC PART 2010 : Windsor, UK, September 3-5, 2010 : proceedings 2010 / p. 147-154

Synthesis of test purpose directed reactive planning tester for nondeterministic systems

Vain, Jüri; Raiend, Kullo; Kull, Andres; Ernits, Juhan-Peep 22nd IEEE/ACM International Conference on Automated Software Engineering (ASE 2007) : November 5-9, 2007, Atlanta, Georgia, USA 2007 / p. 363-372
https://www.researchgate.net/publication/220883693_Synthesis_of_test_purpose_directed_reactive_planning_tester_for_nondeterministic_systems

Synthesis of test purpose directed reactive planning tester for nondeterministic systems (extended abstracts)

Vain, Jüri; Raiend, Kullo; Kull, Andres; Ernits, Juhan-Peep NWTP'07/FLACOS'07 Workshop Proceedings : Oslo, 10-12 October 2007 2007 / p. 55-57

A systematic approach on modeling refinement and regression testing of real-time distributed systems

Pal, Deepak; Vain, Jüri IFAC-PapersOnLine 2019 / p. 1091-1096 <https://doi.org/10.1016/j.ifacol.2019.11.341> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

TEA entsüklopeedia

Eerme, Kalju; **Loide, Rein-Karl; Nõlvak, Jaak; Alver, Jaan; Purju, Alari; Kask, Jüri; Kõiv, Teet-Andrus; Mespak, Vello; Metsaveer, Jaan; Möisnik, Kuulo; Raado, Lembi-Merike; Vain, Jüri** 2014

Tehnoloogiad, mis muudavad maailma

Vain, Jüri A & A 2003 / 6, lk. 5-8 https://artiklid.elnet.ee/record=b1014276*est

Temporal multi-view contracts for efficient test models

Guin, Jishu; Vain, Jüri; Tsiopoulos, Leonidas; Valdek, Gert Digital Business and Intelligent Systems : 15th International Baltic Conference, Baltic DB&IS 2022, Riga, Latvia, July 4-6, 2022 : proceedings 2022 / p. 136–151 https://doi.org/10.1007/978-3-031-09850-5_10 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Temporal multi-view contracts help developing efficient test models

Guin, Jishu; Vain, Jüri; Tsiopoulos, Leonidas; Valdek, Gert Baltic journal of modern computing 2022 / p. 710-737 <https://doi.org/10.22364/bjmc.2022.10.4.07> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tempus JEP-06145 : [projekt "Infotehnoloogia ja teoreetilise informaatika hariduse arenduskeskus Eesti ülikoolidele"]

Vain, Jüri Arvutustehnika ja Andmetöötlus 1994 / 2, lk. 28-32

Test scenario specification language for model-based testing

Halling, Evelin; Vain, Jüri; Boyarchuk, Artem; Illiashenko, Oleg International Journal of Computing 2019 / p. 408-421 : ill <http://www.computingonline.net/computing/article/view/1611> <https://doi.org/10.47839/ijc.18.4.1611> [Journal metrics at Scopus](#) [Article at Scopus](#)

Tester partitioning and synchronization algorithm for testing real-time distributed systems

Pal, Deepak; Vain, Jüri Proceedings of the 10th Junior Researcher Workshop on Real-Time Computing : JRWRTC 2016 : Brest, France, October 19-21, 2016 2016 / p. 13-16 : ill <http://jrwrtc2016.gforge.inria.fr/>

Testing web services with model-based mutation

Siavashi, Faezeh; Iqbal, Junaid; Truscan, Dragos; **Vain, Jüri** Software Technologies : 11th International Joint Conference, ICSOFT 2016 : Lisbon, Portugal, July 24–26, 2016 : revised selected papers 2017 / p. 45-67 http://doi.org/10.1007/978-3-319-62569-0_3

TestIt: an open-source scalable long-term autonomy testing toolkit for ROS

Kanter, Gert; Vain, Jüri Conference Proceedings of 2019 10th International Conference on Dependable Systems, Services and Technologies DESSERT'2019, United Kingdom, Leeds, June 5-7, 2019 2019 / art. 8770011, p. 45-50 <http://dx.doi.org/10.1109/DESSERT.2019.8770011>

The Crisis Management System - a case study on aspect-oriented modelling with UPPAAL

Iqbal, Junaid; Truscan, Dragos; Porres, Ivan; **Tsiopoulos, Leonidas; Vain, Jüri** 2016 http://tuus.fi/publications/view/?pub_id=tlqTsTrVaPo16a

Time semantics of executable activity diagrams for relativized conformance testing

Iqbal, Junaid; Truscan, Dragos; **Vain, Jüri** MODELS '20: Proceedings of the 23rd ACM/IEEE International Conference on Model Driven Engineering Languages and Systems: Companion Proceedings 2020 / p. 251-256 <https://doi.org/10.1145/3417990.3421399>

Timed automata based provably correct robot control

Anier, Aivo; Vain, Jüri BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 201-204 : ill

Towards a high-level programming language for IoT and robotics

Kanter, Gert; Vain, Jüri; Fazeldehkordi, Elahe; Owe, Olaf 32nd Nordic Workshop on Programming Theory, NWPT 2021, Reykjavik, Iceland, and online, 4-6 November 2021 2021 / 3 p <http://icetcs.ru.is/nwpt21/abstracts/paper8.pdf> <http://icetcs.ru.is/nwpt21/programme.html>

Towards better specifications for software outsourcing

Lump, Peeter; Ernits, Juhan-Peep; Vain, Jüri Databases and Information Systems : proceedings of the 11th International Baltic Conference, Baltic DB&IS 2014 : Tallinn, Estonia, 8-11 June, 2014 2014 / p. 453-458 : ill

Towards context-sensitive dialogue with robot companion

Vain, Jüri; Sarapuu, Helena 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. 205-208 : ill

Towards scalable proofs of robot swarm dependability

Vain, Jüri; Tammet, Tanel; Kuusik, Alar; Juurik, Silver BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 199-202 : ill

20th Nordic Workshop on Programming Theory : NWPT 2008 : Tallinn, Estonia, 19-21 November 2008 : abstracts

Uustalu, Tarmo; Vain, Jüri; Ernits, Juhan-Peep 2008 https://www.ester.ee/record=b2435749*est

Two phase technique for assembly line balancing

Vain, Jüri; Randvee, Ingmar; Riismaa, Tiit Preprints of the 16th IFAC World Congress : Prague, Czech Republic, July 3-8, 2005 2005 / [6] p

A two-phase metamorphic approach for testing industrial control systems

Sudheerbabu, Gaadha; Ahmad, Tanwir; Sebek, Filip; Truscan, Dragos; **Vain, Jüri**; Porres, Ivan 2022 IEEE 27th International Conference on Emerging Technologies and Factory Automation (ETFA) : proceedings 2022 / 4 p
<https://doi.org/10.1109/ETFA52439.2022.9921439>

Using RFID tags for robot swarm cooperation

Tammet, Tanel; Vain, Jüri; Kuusik, Alar WSEAS transactions on systems 2006 / 5, p. 1121-1128

Verifying response times in networked automation systems using jitter bounds

Srinivasan, Seshadhri; **Vain, Jüri** IEEE 25th International Symposium on Software Reliability Engineering Workshops : ISSREW 2014 : 3-6 November 2014, Naples, Italy : proceedings 2014 / p. 47-50 : ill

Vulnerability assessment of web services with model-based mutation testing

Siavashi, Faezeh; Truscan, Dragos; **Vain, Jüri** 2018 IEEE 18th International Conference on Software Quality, Reliability, and Security - QRS 2018 - : 16-20 July 2018, Lisbon, Portugal : proceedings 2018 / p. 301-312 : ill <http://doi.org/10.1109/QRS.2018.00043>