

Curriculum Vitae for Marius Mikucionis

Personal Details

Name	Marius Mikučionis	
Nationality	Lithuanian	
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Interests

Model-based development of: real-time systems, hybrid systems, embedded systems, control software, distributed systems. In particular applying formal methods in automated verification and validation, monitoring and testing (test generation, test execution, test evaluation).

Currently supporting, maintaining and applying UPPAAL TRON, a tool for automated online testing of real-time systems using UPPAAL model-checker. Extending the online testing framework for hybrid systems using PHAVer (Polyhedral Hybrid Automaton Verifier).

Collaborations

Reviewed papers for: Formal Methods in System Design (journal), TestCom 2007, FATES 2007, TACAS 2006, FATES 2005, CONCUR 2005, ECRTS 2005, TACAS 2005, FTRTFT 2004.

Research project participation: Model Driven Development of Intelligent Embedded Systems (MoDES), Advanced Real Time Systems (ARTIST2), Advanced Methods for Timed Systems (AMETIST), Systematic Testing of Real-time Embedded Software Systems (STRESS).

Industrial projects with: Skov A/S (micro climate control), TK Validate (interactive systems), Danfoss A/S (industrial refrigeration).

Academic Degrees

M.Sc. in Software Systems Engineering, Department of Computer Science, Aalborg University, 2003. Thesis: "On-the-fly Testing Using UPPAAL".

B.Sc. in Computer Science, Faculty of Mathematics and Informatics, Vilnius University, 2001. Thesis "Configuration Management in Average Size Project".

Positions

01/05/2006 - now: research assistant at CISS, Aalborg University.

01/08/2003 - 31/10/2006: Ph.D. student at Department of Computer Science, Aalborg University. Project “Model Based Testing of Embedded Systems” supervised by K. G. Larsen and B. Nielsen.

07-12/2002: UPPAAL Timed Automata parser developer, supervised by G. Behrmann and K. G. Larsen, Aalborg University.

01-06/2002: Independent work with Special Interests Group on governmental stock web portal.

09/2000 - 08/2001: Full-time developer, UAB Sidabrinis Tinklas (now UAB Blue Bridge), Vilnius, outsourcing for Ericsson LMF, Helsinki, Finland.

1998 - 2000: Half-time Lotus Notes developer, consultant for hardware and software store UAB Labas, Vilnius.

Teaching Experience

Received pedagogical courses:

2003: “Problem Based Learning – Teaching the AAU Way”, Aalborg University.

Helped as teaching assistant for the following courses:

2004 and 2005: “Principles of Concurrent and Operating Systems” (PSS) by G. Behrmann, Aalborg University.

2007: “Testing and Verification” (TOV) by K. G. Larsen, B. Nielsen and A. Skou, Aalborg University.

Supervised student group projects:

2003: DAT3 “Heurika: A decentralised shared file system for local area networks” (on theme “Distributed Systems”), Aalborg University.

2004: DAT2 “LEGO Automata Language: The development of a compiler” (on theme “Languages and Compilers”), Aalborg University.

2004: F7S “CATS: An All-Software Distributed Shared Memory Management System” (on theme “Distributed Systems”), Aalborg University.

2005: DAT2 “Nomad - Distributed Programming: Language and Compiler” (on theme “Languages and Compilers”), Aalborg University.

2006 F6S “LegoLet: Language and Compilation” (on theme “Languages and Compilers”), Aalborg University.

Studies

01/08/2003 - now: Ph.D. project “Model Based Testing of Real-time Systems” at Aalborg University.

28/08/2005 - 03/02/2006: Research visit of Insup Lee and Oleg Sokolsky at University of Pennsylvania, PA, USA.

01/09/2001 - 30/06/2003: M.Sc. studies in Software Systems Engineering, Department of Computer Science, Aalborg University.

01/09/1997 - 30/06/2001: B.Sc. studies in Computer Science, Faculty of Mathematics and Informatics, Vilnius University.

07-08/2000: Database Search Engine development under Michael Böhlen supervision, Department of Computer Science, Aalborg University.

01-06/2000: Exchange student in computer science program, Roskilde Business College.

1994 - 1997: Lyceum of Exact, Nature and Technical Sciences, Vilnius. Fizikos Olimpas special training in physics, Vilnius. Fotonas, complementary physics school by correspondence, Šiauliai.

Achievements

2003: Excellent paper award in “Writing and Reviewing Scientific Papers”, Ph.D. course, Aalborg University.

1997: Honorable Mention, International Physics Olympiad, Sudbury, Canada.

1994-1997: 6 Diplomas from Lithuanian National Olympiads in Physics and Informatics.

Courses and Skills

Summer schools: Marktoberdorf Summer School 2004 (Engineering Theories of Software Intensive Systems), Marktoberdorf, Germany.

Ph.D. courses: Topics in Modern Applied Mathematics, Embedded Systems Validation, Introduction to Hybrid Systems, Infinite State Systems, Design and Analysis of Experiments, Java and C#, Writing and Reviewing Scientific Papers, Problem Based Learning (teaching the AAU way).

M.Sc. courses: Complexity and Computability, Semantics and Verification, Real-time Systems, Distributed Systems, Software Engineering, Programming Paradigms, Decision Support Systems and Machine Learning, Professional Communication in Computer Science.

Tools: UPPAAL TRON, UPPAAL, SPIN, TORX, Charon, Cindarella SDL, LaTeX.

Programming: C/C++, Java, Prolog, Assembler and other languages. Unix (Linux, SunOS) and Windows.

Languages: Lithuanian (mother-tongue), English (fluent), Russian (good), Danish (beginner), French (beginner), German (beginner).

Refereed Publications

- [1] Kim G. Larsen, Marius Mikucionis, and Brian Nielsen. Testing real-time embedded software using uppaal-tron: an industrial case study. In *the 5th ACM international conference on Embedded software*, pages 299 – 306. ACM Press New York, NY, USA, September 18–22 2005.
- [2] Anders Hessel, Kim Guldstrand Larsen, Marius Mikucionis, Brian Nielsen, Paul Pettersson, and Arne Skou. *Formal Methods and Testing*, chapter Automated Model-Based Conformance Testing of Real-Time Systems. Springer Verlag, 2005. 39 pp.
- [3] K.G. Larsen, M. Mikucionis, and B. Nielsen. Online testing of real-time systems using UPPAAL. In *Formal Approaches to Testing of Software*, Linz, Austria, September 21 2004. Lecture Notes in Computer Science.
- [4] Kim Larsen, Marius Mikucionis, and Brian Nielsen. Online Testing of Real-time Systems using Uppaal: Status and Future Work. In E. Brinksma, W. Grieskamp, J. Tretmans, and E. Weyuker, editors, *Dagstuhl Seminar Proceedings volume 04371: Perspectives of Model-Based Testing*, Schloss Dagstuhl, D-66687 Wadern, Germany., September 2004. IBFI gem. GmbH, Schloss Dagstuhl.
- [5] Marius Mikucionis, Kim G. Larsen, and Brian Nielsen. T-uppaal: Online model-based testing of real-time systems: tool demo. In *the 19th IEEE International Conference on Automated Software Engineering (ASE)*, pages 396–397, Linz, Austria, September 24 2004.
- [6] M. Mikucionis, B. Nielsen, and K.G. Larsen. Real-time system testing on-the-fly. In *the 15th Nordic Workshop on Programming Theory*, number 34 in B, pages 36–38, Turku, Finland, October 29–31 2003. Åbo Akademi, Department of Computer Science, Finland. Abstracts.

Non-Refereed Material

- [1] Marius Mikucionis, Kim G. Larsen, and Brian Nielsen. Online on-the-fly testing of real-time systems. Technical Report RS-03-49, BRICS, iesd, December 2003. 14 pp.
- [2] Marius Mikucionis and Egle Sasnauskaite. On-the-fly testing using UPPAAL. Master's thesis, Department of Computer Science, Aalborg University, Denmark, June 2003.