Antonio Filieri

Position:	Lecturer (Assistant Professor)	Mobile:	███████
Affiliation:	Department of Computing	Email:	a.filieri@imperial.ac.uk
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Research Interests

My research interests are in the application of Probability, Statistics, Logics, Mathematical Analysis, and Control Theory to software design, coding, verification, and adaptation.

My main research topics are:

- Exact and approximate methods for probabilistic software analysis and probabilistic programming
- Control Theory for Software Engineering
- Runtime-efficient and incremental verification

Education

2010 - 2013   **Ph.D. Information Technology, Politecnico di Milano - Italy**

PhD Thesis: *Model-Based Verification and Adaptation of Software Systems @Runtime*
Advisor: Prof. Carlo Ghezzi (Politecnico di Milano) - carlo.ghezzi@polimi.it
Opponent: Prof. Radu Calinescu (University of York) - radu.calinescu@york.ac.uk
Grade: Summa cum Laude

Minor Research Thesis: *Self-Adaptive Software Meets Control Theory*
Advisor: Prof. Alberto Leva (Politecnico di Milano) - leva@elet.polimi.it.
Grade: A (top score)

2008 - 2010   **M.S. Computer Science, University of Illinois at Chicago - USA**

Thesis: *Failure Propagation Analysis with Multiple Failure Modes in Component-Based Systems Reliability*
Advisor: Prof. Ugo Buy (University of Illinois) - buy@cs.uic.edu
GPA: 3.71/4

2007 - 2009   **M.S. Computer Systems Engineering, Politecnico di Milano - Italy**

Thesis: *Software Failures Propagation and Transformation in Component-Based Systems*
Advisor: Prof. Carlo Ghezzi - carlo.ghezzi@polimi.it
Grade: 110/110 cum Laude

2004 - 2007   **B.S. Computer Systems Engineering, Politecnico di Milano - Italy**

Thesis: *Decidability Analysis of a Temporal Logic with Metric on Time*
Advisor: Prof. Matteo Rossi - rossi@elet.polimi.it
Grade: 110/110 cum Laude

Selected Work Experience and Visiting

Nov 2015 - present	Lecturer (Assistant Professor), Department of Computing, Imperial College London
Mar 2014 - Oct 2015	Assistant Professor, chair of the Runtime Verification and Adaptation of Software Systems unit within the Reliable Software Systems Chair
Jan 2013 - Feb 2014	Research Associate at the Institute of Software Technology, University of Stuttgart, Germany
23-30 March 2014	Visiting Scientist at Department of Control Automation, Lund University, Lund, Sweden
15-20 July 2013	Visiting Scientist at Università della Svizzera Italiana, Lugano, Switzerland
3-7 July 2013	Visiting Scientist at Department of Control Automation, Lund University, Lund, Sweden
28-30 May 2013	Visiting Scientist at NASA Ames Research Center, Moffet Field, USA
28 Jan - 1 Feb 2013	Visiting Scientist at Microsoft Research, Cambridge, UK
May 2012 - Aug 2012	Visiting Scientist at NASA Ames Research Center, Moffet Field, USA

Selected Awards & Recognitions

2017	*Best artifact Award* at the 12th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)
2017	*Nomination to the ACM SigSoft Early Career Researcher Award*
2016	*ACM Distinguished Reviewer Award* at the 31st IEEE/ACM International Conference on Automated Software Engineering (ASE)
2013	*Dimitri N. Chorafas Foundation Best PhD Thesis Award* in Systems Engineering and Information Technology
2011	*ACM Distinguished Paper Award* at the 33rd International Conference on Software Engineering (flagship conference on Software Engineering) - Honolulu, Hawaii
2010	*Best Paper Award* at the 7th International Conference on the Quality of Information and Communications Technology - Quality in ICT Verification and Validation track - Oporto, Portugal
2010	*Best Research Paper Award* at the 13th International Symposium on Component Based Software Engineering - Prague, Czech Republic
2008	*Best BS Thesis Award "C. Maffezzoni"*, by Associazione Cremonese Studi Universitari - Cremona, Italy
2004-2007	*Politecnico di Milano Distinguished Scholarship* (GPA >29/30 every year) - Milan, Italy
2004	*Nomination to "Alfieri del Lavoro"* recognition by the Presidente della Repubblica and Cavalieri del Lavoro - Rome, Italy

Selected Professional Service

Chair or organizer:

- Program co-chair International Workshop on Autonomic High Performance Computing (AHPC 2017)
- Program co-chair Systems Software Engineering track at ANT 2017
- Workshops co-chair at the 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE 2017)
- Co-organizer with Marta Kwiatkowska, Todd Mytkowicz, Martin Rinard, and Sasa Misailovic of the

Dagstuhl Seminar 15491 "Approximate and Probabilistic Computing: Design, Coding, Verification", Nov 2015, Dagstuhl, Germany

- Program co-chair of the 1st International Workshop on Control Theory for Software Engineering (CTSE), co-located with ESEC-FSE 2015
- Co-organizer with Martina Maggio of the GI-Dagstuhl Seminar 14382 "Control Theory meets Software Engineering", Sept 2014, Dagstuhl, Germany

Others (International):

- External panel member final assessment committee PhD program in Computing Systems Engineering, Politecnico di Milano, 2017
- Judge for the ACM PhD Student Research Competition at ICSE 2017
- External examiner for the PhD defense of Luca Florio, Politecnico di Milano, Italy, 2016
- External examiner for the PhD defense of Reza Matinnejad, University of Luxembourg, Luxembourg, 2016
- Publicity co-chair of the 14th International Conference on Quantitative Evaluation of SysTems (QEST 2017)
- Panel chair and reviewer for the Italian Ministry of Education PRIN research projects (main funding schema for foundational research in Italy; CfP: 2015, evaluation: 2016)
- Member of the ACM SIGSOFT Distinguished Dissertation Award evaluation committee (2015)
- Publicity co-chair of the 10th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC-FSE 2015)

Others (university):

- 1st year PhD Mentor for the Department of Computing, Imperial College London, 2016-2017
- Member of the sabbaticals committee, Imperial College London, 2017
- Examiner PhD defense of Sokratis Kartakis (supervisor: Julie McCann), Imperial College London, 2017
- Examiner PhD defense of Tomasz Kuchta (supervisor: Cristian Cadar), Imperial College London, 2016
- Member of the undergraduate Prize Committee, Imperial College London, 2016
- Chairman of the Selection Committee for the master program in Software Engineering, the University of Stuttgart
- Member of the Special Audit Board for Computer Science of the University of Stuttgart
- Member of the Selection Committee for the bachelor program in Software Engineering, the University of Stuttgart

Editorial/review boards of international journals:

- Review board - IEEE Transactions on Software Engineering (top journal on Software Engineering)

Program committee member:

- 2018 ACM SIGSOFT Symposium on the Foundations of Software Engineering (FSE 2018)
- The Art, Science, and Engineering of Programming (Programming 2018)
- 39th International Conference on Software Engineering (ICSE 2017)
- 32nd IEEE/ACM International Conference on Automated Software Engineering (ASE 2017)
- 14th International Conference on Quantitative Evaluation of SysTems (QEST 2017)
- 11th IEEE International Conference on Self-Adaptive and Self-Organizing Systems (SASO 2017)
- 12th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2017)

- 2017 IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2017)
- 15th International workshop on Quantitative Aspects of Programming Languages and Systems (QAPL 2017)
- 2017 FME Workshop on Formal Methods in Software Engineering (FormaliSE 2017)
- 43rd Euromicro Conference on Software Engineering and Advanced Applications, ESE Track (SEAA 2017)
- 12th International Workshop on Feedback Computing (FC 2017)
- 2017 Workshop on Approximate Computing Across the Stack (WAX@ASPLOS 2017)
- 1st Workshop on Formal Approaches for Advanced Computing Systems (FAACS 2017)
- 2nd International Workshop on Models@run.time for Self-aware Computing Systems (MRT@ICAC 2017)
- 3rd International Workshop on Software Engineering for Smart Cyber-Physical Systems (SEsCPS 2017)
- 1st International Workshop on Safe Control of Connected and Autonomous Vehicles (SCAV 2017)

- 38th International Conference on Software Engineering (ICSE 2016)
- 31st IEEE/ACM International Conference on Automated Software Engineering (ASE 2016)
- 11th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2016)
- 13th Working IEEE/IFIP Conference on Software Architecture (WICSA) and the 19h International ACM SIGSOFT Symposium on Component-Based Software Engineering (CBSE) - (CompArch 2016)
- 2016 Java Pathfinder Workshop (JPF 2016)
- 2016 FME Workshop on Formal Methods in Software Engineering (FormaliSE 2016)
- 7th International Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN 2016)
- International Workshop on Models@run.time for Self-aware Computing Systems, co-located with ICAC (Models@run.time 2016)
- 42nd Euromicro Conference on Software Engineering and Advanced Applications, ESE Track (SEAA 2016)
- 38th International Conference on Software Engineering - Posters Program (ICSE-Posters 2016)

- 27th International Conference on Computer Aided Verification (CAV 2015)
- 30th International Conference on Automated Software Engineering (ASE 2015)
- 18th International ACM SigSoft Symposium on Component-Based Software Engineering (CBSE 2015)
- 10th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2015)
- IEEE Cloud and Autonomic Computing Conference (CAC 2015, formerly ICAC)
- 10th International Workshop on Models at run.time (MRT 2015)
- 10th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC-FSE 15) - Tools track
- 41st Euromicro Conference on Software Engineering and Advanced Applications, ESE Track (SEAA 2015)
- 1st International Workshop on Software Engineering for Smart Cyber-Physical Systems (SEsCPS 2015)
- 29th International Conference on Automated Software Engineering (ASE 2014) - Doctoral Symposium

- 9th International Workshop on Models at run.time (MRT 2014)
- 40th Euromicro Conference on Software Engineering and Advanced Applications, ESE Track (SEAA 2014)
- 2nd International Workshop on Quality Assurance for Service-based applications (QASBA 2013)
- 39th Euromicro Conference on Software Engineering and Advanced Applications, ESE Track (SEAA 2013)

Teaching Activities

Invited lectures:

- Lecturer at the 2nd International Spring School on Trustworthy Self-Organising Systems, Augsburg, Germany, 8-10/06/2015
- *Control Theory for Self-adaptive Software*, Politecnico di Milano, Milan, Italy, 20/11/2013

Tutorials and focused courses at conferences:

- Tutorial on Probabilistic Programming and Probabilistic Program Analysis ad the International Conference on Automated Software Engineering (ASE) - Urbana-Champaign, IL, USA, 03/11/2017
- Instructor at the International Conference on Software Engineering (ICSE) - Technical Briefing on Control Theory for Software Engineering, Austin, TX, USA, 17/05/2016

Main or peer instructor:

2017 - Spring Term	"Programming 2: data structure and practical concurrency in Java" (C120.2, undergraduate level, co-instructor), Imperial College London, UK
2017 - Spring Term	"Academic Writing for Computer Science" (C520, graduate level (PhD), co-instructor), Imperial College London, UK
2016 - Spring Term	"Software Engineering for Industry" (C475, graduate level, co-instructor), Imperial College London, UK
Apr 2015 - Aug 2015	"Software Verification" (graduate level, main instructor), Universität Stuttgart, Germany
Apr 2015 - Aug 2015	"Team development project: An Eclipse-based tool for the incremental verification of JML contracts" (graduate level, main instructor), Universität Stuttgart, Germany
Apr 2015 - Aug 2015	"Advanced topics on Software Engineering: Non-functional aspects in Software Engineering" (hauptseminar, graduate level, peer instructor with Prof. Lars Grunske), Universität Stuttgart, Germany
Oct 2014 - Feb 2015	"Advanced topics on Software Engineering: Software Evolution" (hauptseminar, graduate level, peer instructor with Prof. Lars Grunske), Universität Stuttgart, Germany
Oct 2014 - Feb 2015	"Advanced topics on Software Engineering: Software Verification" (peer instructor with Prof. Lars Grunske), Universität Stuttgart, Germany
Apr 2014 - Aug 2014	"Software Verification" (graduate level, main instructor), Universität Stuttgart, Germany
Apr 2014 - Aug 2014	"Advanced topics on Software Engineering: Non-functional properties" (hauptseminar, graduate level, peer instructor with Prof. Lars Grunske), Universität Stuttgart, Germany
Oct 2013 - Mar 2014	"Data Structures and Algorithms" (graduate level, main instructor), Universität Stuttgart, Germany
Oct 2013 - Mar 2014	Teaching Assistant for "Research Methods for Software Engineering" (graduate level), Universität Stuttgart, Germany
Oct 2013 - Mar 2014	Teaching Assistant for "Requirements Engineering and Software Architectures" (graduate level), Universität Stuttgart, Germany

Teaching assistant:

Oct 2013 - Mar 2014	"Selected Topics on Software Verification", Universität Stuttgart, Germany
Mar 2013 - Aug 2013	"Advanced Topics on Software Engineering: Software Analytics" (graduate level), Universität Stuttgart, Germany
Dec 2012 - Mar 2013	"Research Methods for Software Engineering" (graduate level), Universität Stuttgart, Germany
Dec 2012 - Mar 2013	"Requirements Engineering und Architektur" (graduate level), Universität Stuttgart, Germany
Oct 2012 - Feb 2013	"Software Engineering 2" (graduate level), Politecnico di Milano, Italy
Mar 2012 - Jul 2012	Teaching Assistant and tutor for the final bachelor examination project for Software Engineering, Politecnico di Milano, Italy
Oct 2011 - Feb 2012	"Algorithms and Principles of Computer Science", Politecnico di Milano, Italy
Mar 2011 - Jul 2011	"Enterprise IT Infrastructures", Politecnico di Milano, Italy
Mar 2011 - Jul 2011	Teaching Assistant and tutor for the final bachelor examination project in Software Engineering, Politecnico di Milano, Italy
Mar 2010 - Jul 2010	"Enterprise IT Infrastructures", Politecnico di Milano, Italy
Oct 2006 - Jul 2007	Tutor to a blind student for Operating Systems and Electronics, Politecnico di Milano, Italy
Oct 2006 - Jul 2007	Tutor for Mathematical Analysis, Programming, and Operating Systems, Politecnico di Milano, Italy

Supervised Students

current	Mateus A. Borges, PhD Thesis on solution space quantification for probabilistic symbolic execution (main advisor, at Imperial College London)
current	Donato Clun, PhD Thesis on quantitative guarantees for hot-swap software components (main advisor, at Imperial College London)
current	Spyros Theodoropoulos, MSc Thesis on robust synthesis for nondeterministic action in probabilistic programs (main advisor, at Imperial College London)
visiting, 7-8/2017	Mitchell Gerrard, Joint project on comprehensive failure characterization (supervisor: Matt Dwyer, University of Nebraska at Lincoln)
2016	Alessandro Maria Rizzi, PhD Thesis on incremental verification of Matching Logic on C programs (co-advised with Prof. Carlo Ghezzi at Politecnico di Milano)
2016	Philipp Niethammer, graduate student research project and MS thesis on Incremental synthesis of verification conditions for JML properties
2016	Yannic Noller, graduate student research project and MS thesis on Multi-objective fuzzy controllers for software adaptation with provable stability
2016	Tobias Rudolph, MS thesis on Probabilistic symbolic execution for automatic software repair
2014	Tim Zwietasch, BS Thesis on detecting anomalies in system log files using machine learning techniques (co-advised with Prof. Lars Grunske)
2014	Fabian Keller, BS Thesis on the systematic architecture level fault diagnosis using statistical techniques (co-advised with Prof. Lars Grunske)
2014	Albert Flaig, BS Thesis on the dynamic instrumentation in Kieker using runtime bytecode modification (co-advised with Dr. Andre van Hoorn)
2014	Sven Maier, BS Thesis on enriched tool support for probabilistic specification mining (ProSpecMi) (co-advised with Prof. Lars Grunske)

2013	Alessandro Maria Rizzi, MS Thesis on incremental verification of C programs
2012	Marco Bussi, MS Thesis on bisimulation and analysis of Markov models
2011	Emilano Manini, MS Thesis on simulation and analysis of failure propagation
2010	Filippo Spelta, MS Thesis on failure propagation analysis with stochastic petri nets
2011	Marco Collatina, BS Thesis on model-driven generation of Markov models
2011	Andrea Savio, BS Thesis on design and simulation for domotics (home automation)

Invited Talks

- *Early career in academia: the good, the bad, the ugly*, talk and panel, New Faculty Symposium, International Conference on Software Engineering (NFS-ICSE), Buenos Aires, Argentina, 23/05/2017

- *Bringing probabilistic verification at runtime*, Automata, Logic and Games, Institute for Mathematical Sciences, National University of Singapore, Singapore, 22-25/09/2016

- *Control theory for Software Engineering: the good, the bad, … the missing*, at NII Shonan Meeting on Controlled Adaptation of Self-adaptive Systems (CASaS), Shonan Village Center, Japan, 25-28/04/2016

- *Keep your software under control: control theory for adaptive software*, at the 14th International Workshop on Quantitative Aspects of Programming Languages and Systems (QAPL@ETAPS 16), Eindhoven, The Netherlands, 2-3/04/2016

- *Probabilistic Symbolic Execution: Bringing quantitative analysis at code level*, at The University of Edinburgh, Informatics Forum, Edinburgh, UK, 14/03/2016

- *Probabilistic Symbolic Execution: Moving quantitative analysis from models to code*, at Oxford University, Oxford, UK, 09/03/2016

- *Lightweight Adaptive Filters for Tracking Software Behavior @Runtime*, at the 44th CREST Open Workshop - Predictive Modelling for Software Engineering, University College London, London, 23-24/11/2015

- *Models in the middle and automated control synthesis: how to improve a software… engineer*, Charles University, Prague, Czech Republic, 17/06/2015

- *Statistical Symbolic Execution with Informed Sampling*, SE 2015, Dresden, Germany, 19/03/2015

- *Automated Design of Self-Adaptive Software with Control-Theoretical Formal Guarantees*, SE 2015, Dresden, Germany, 20/03/2015

- *Automated Control for Self-adaptive Software Design*, 2nd Workshop on Autonomic Computing and Control, Grenoble, FR, 04/11/2014

- *On the Probabilistic Symbolic Analysis of Programs*, Approx2014@PLDI, Edinburg, UK, 13/06/2014

- *Reliability Analysis in Symbolic Pathfinder: A brief summary*, SE 2014, Kiel, Germany, 27/02/2014

- *Control Theory for Self-adaptive Software*, Politecnico di Milano, Milan, Italy, 20/11/2013

- *Model-based Verification and Adaptation of Software Systems @Runtime*, University of Stuttgart, Stuttgart, Germany, 17/09/2013

- *From Dynamic Binding to Dynamic Allocation: QoS-driven adaptation in the Cloud*, Department of Control Automation, Lund University, Sweden, 05/07/2013

- Dagstuhl Seminar (13511) *Software Engineering for Self-Adaptive Systems: Assurances*, Dagstuhl, Germany, 15-19/12/2013.

- *Reliability Analysis in Symbolic PathFinder: a Few Steps Further*, Microsoft Research, Cambridge, UK, 28/01/2013

- *Run-Time Verification and Model Update*, DeepSE with GRACE Joint Workshop with Japanese National Institute of Informatics, Milan, Italy, 4-5/10/2012

- *Reliability Analysis in Symbolic PathFinder*, Intelligent Systems Division, NASA Ames Research Center, Moffet Field, CA, USA, 27/07/2012
- GI-Dagstuhl Seminar *Quality-of-Service Attributes in Service- and Cloud-based Systems: Specification, Modeling, Monitoring, Prediction, and Optimization*, Dagstuhl, Germany, 20-25/05/2012
- *Run-Time Verification and Model Update*, Joint Workshop of five ERC-funded Projects on Software Quality, Venice, Italy, 19-21/09/2011
- *Quality Assurance in SMSCom: QoS Verification and Model Tuning @Runtime*, QASBA International Workshop, Lugano, Switzerland, 14/09/2011
- *Failure Propagation Analysis with Multiple Failure Modes*, ASE 2010: PC meeting and ASE workshop, Milan, Italy, 26/05/2010
- GI-Dagstuhl Seminar *Model-Driven Quality Prediction*, Dagstuhl, Germany, 29/11-2/12/2009

Publications

Updated list, details, and preprints are available at http://www.antonio.filieri.name.
Google scholar page (including citations count) http://goo.gl/BST9y7 .
DBLP page: http://goo.gl/vvYmNj .
ACM DL page: http://goo.gl/38DvrI .
[DOIs are clickable].

International Journals

6. A. Filieri, et al. *Control Strategies for Self-Adaptive Software Systems*. In ACM Transactions on Autonomous and Adaptive Systems (TAAS), 2017. [DOI: 10.1145/3024188]

5. A. Filieri, C. Ghezzi, and G. Tamburrelli. *Supporting Self-adaptation via Quantitative Verification and Sensitivity Analysis at Run Time*. In IEEE Transactions on Software Engineering (TSE), 2016. [DOI: 10.1109/TSE.2015.2421318]

4. D.Bianculli, A. Filieri, C. Ghezzi, and D. Mandrioli. *Syntactic-Semantic Incrementality for Agile Verification*. In Science of Computer Programming (SciCo), v. 97, no. 1, pp.47-54, 2015. [DOI: 10.1016/j.scico.2013.11.026]

3. A. Ciancone, M. L. Drago, A. Filieri, V. Grassi, H. Koziolek, and R. Mirandola. *The KlaperSuite Framework for Model-Driven Reliability Analysis of Component-Based Systems*. In Software and Systems Modeling (SoSyM), v. 13, no. 4, pp. 1269-1290, 2013. [DOI: 10.1007/s10270-013-0334-8]

2. A. Ciancone, A. Filieri, and R. Mirandola. *Testing Operational Transformations in Model-Driven Engineering*. In Innovations in Systems and Software Engineering (ISSE), v. 10, no. 1, pp. 19-32, 2013. [DOI: 10.1007/s11334-013-0208-9]

1. A. Filieri, C. Ghezzi, and G. Tamburrelli. *A Formal Approach to Adaptive Software: Continuous Assurance of Non-Functional Requirements*. In Formal Aspects of Computing (FAC), v. 24, no. 2, pp. 163-186, 2012. [DOI: 10.1007/s00165-011-0207-2]

International Conferences

23. M. Maggio, A. V. Papadopoulos, A. Filieri and H. Hoffmann. *Automated Control of Multiple Software Goals using Multiple Actuators*. In European Software Engineering Conference / ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE), 2017. [Acceptance rate 72/295, 24.4%, DOI: 10.1145/3106237.3106247]

22. F. Keller, L. Grunske, S. Heiden, A. Filieri, A. van Hoorn, D. Lo. *A Critical Evaluation of Spectrum-Based Fault Localization Techniques on a Large-Scale Software System*. In IEEE International Conference on Software Quality, Reliability and Security (QRS), 2017. [Acceptance Rate 25/97, 25.7%, DOI: 10.1109/QRS.2017.22]

21. A. Filieri, H. Hoffmann, M. Maggio. *Automated Multi-Objective Control for Self-Adaptive Software Design*. In European Software Engineering Conference / ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE), 2015. [Acceptance rate 74/291, 25.4%, DOI: 10.1145/2786805.2786833]

20. M. Borges, A. Filieri, M. d'Amorim, C. S. Pasareanu. *Iterative Distribution-Aware Sampling for Probabilistic Symbolic Execution*. In European Software Engineering Conference / ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE), 2015. [Acceptance rate 74/291, 25.4%, DOI: 10.1145/2786805.2786832]

19. A. Filieri, M. Frias, C. Pasareanu, W. Visser. *Model Counting for Complex Data Structures*. In International SPIN Symposium on Model Checking of Software (SPIN), 2015. [Acceptance rate 14/26, 53,8%, DOI: 10.1007/978-3-319-23404-5_15]

18. A. Filieri, L. Grunske, A. Leva. *Lightweight Adaptive Filtering for Efficient Learning and Updating of Probabilistic Models*. Proceedings of the International Conference on Software Engineering (ICSE), 2015. [Acceptance rate 84/452, 18.5%, DOI: 10.1109/ICSE.2015.41]

17. A. Filieri, et al. *Software Engineering Meets Control Theory*. Proceedings of the 10th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS, 2015), [Acceptance rate 16/55, 29%, DOI: 10.1109/SEAMS.2015.12].

16. D. Arcelli, V. Cortellessa, A. Filieri, and A. Leva. *Control Theory for Model-based Performance-driven Software Adaptation*. Proceedings of the 11th International ACM Sigsoft Conference on the Quality of Software Architectures (QoSA, May 2015), [Acceptance rate N/A], DOI: 10.1145/2737182.2737187

15. A. Filieri, H. Hoffman, and M. Maggio. *Automated Design of Self-Adaptive Software with Control-Theoretical Formal Guarantees*. In International Conference on Software Engineering (ICSE), pp. 299-310, 2014. [Acceptance rate 99/495, 20%, DOI: 10.1145/2568225.2568272]

14. A. Filieri, C. S. Pasareanu, W. Visser, and J. Geldenhuys. *Statistical Symbolic Execution with Informed Sampling*. In ACM SigSoft International Symposium on Foundations of Software Engineering (FSE), pp. 437-448, 2014. [Acceptance rate 61/273, 22%, DOI: 10.1145/2635868.2635899]

13. M. Borges, A. Filieri, M. d'Amorin, C. S. Pasareanu, and W. Visser. *Compositional Solution Space Quantification for Probabilistic Software Analysis*. In Programming Languages Design and Implementation (PLDI), pp. 123-132, 2014. [Acceptance rate 52/287, 18.1%, DOI: 10.1145/2594291.2594329]

12. K. S. Luckow, C. S. Pasareanu, M. Dwyer, A. Filieri, and W. Visser. *Exact and Approximate Probabilistic Symbolic Execution for Nondeterministic Programs*. In IEEE/ACM International Conference on Automated Software Engineering (ASE), pp. 575-586, 2014. [Acceptance rate 55/337, 16.3%, DOI: 10.1145/2642937.2643011]

11. D. Bianculli, A. Filieri, C. Ghezzi, and D. Mandrioli. *Incremental Syntactic-Semantic Reliability Analysis of Evolving Structured Workflows*. In 6th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (ISoLA), pp. 41-55, 2014. [Acceptance rate N/A, DOI: 10.1007/978-3-662-45234-9_4]

10. A. Filieri, C. S. Pasareanu, and W. Visser. *Reliability Analysis in Symbolic Pathfinder*. In International Conference on Software Engineering (ICSE), pp. 622-631, 2013. [Acceptance rate 85/461, 18.5%, DOI: 10.1109/ICSE.2013.6606608]

9. A. Filieri, C. Ghezzi, A. Leva, and M. Maggio. *Reliability-Driven Dynamic Binding via Feedback Control*. In International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS), pp. 43-52, 2012. [Acceptance rate 15/50, 30%, DOI: 10.1109/SEAMS.2012.6224390]

8. A. Filieri, C. Ghezzi, A. Leva, and M. Maggio. *Autotuning Control Structures for Reliability-Driven Dynamic Binding*. In IEEE Conference on Decision and Control (CDC), pp. 418-423, 2012. [Acceptance rate N/A, DOI: 10.1109/CDC.2012.6426402]

7. A. Filieri, C. Ghezzi, A. Leva, and M. Maggio. *Discrete-Time Dynamic Modeling for Software and Services Composition as an Extension of the Markov Chain Approach.* In IEEE Control Applications (CCA), pp. 557-562, 2012. [Acceptance rate N/A, DOI: 10.1109/CCA.2012.6402664]

6. A. Filieri, C. Ghezzi, and G. Tamburrelli. *Run-Time Efficient Probabilistic Model Checking.* In International Conference on Software Engineering (ICSE), pp. 341-350, 2011. [Acceptance rate 62/441, 14.1%, DOI: 10.1145/1985793.1985840] - **ACM Distinguished Paper Award**

5. A. Filieri, C. Ghezzi, A. Leva, and M. Maggio. *Self-Adaptive Software Meets Control Theory: A Preliminary Approach Supporting Reliability Requirements.* In Automated Software Engineering (ASE), pp. 283-292, 2011. [Acceptance rate 37/252, 14.7%, DOI: 10.1109/ASE.2011.6100064]

4. S. Distefano, A. Filieri, C. Ghezzi, and R. Mirandola. *A Compositional Method for Reliability Analysis of Workflows Affected by Multiple Failure Modes.* In Component Based Software Engineering (CBSE), pp. 149-158, 2011. [Acceptance rate 29%, DOI: 10.1145/2000229.2000251]

3. A. Ciancone, A. Filieri, M. L. Drago, R. Mirandola, and V. Grassi. *Klapersuite: an Integrated Model-Driven Environment for Non-Functional Requirements Analysis of Component-Based Systems.* In Objects, Models, Components, Patterns (TOOLS), pp. 99-114, 2011. [Acceptance rate 19/66, 28.8%, DOI: 10.1007/978-3-642-21952-8_9]

2. A. Ciancone, A. Filieri, and R. Mirandola. *MANTra: Towards Model Transformation Testing.* In International Conference on the Quality of Information and Communications Technology (QUATIC), pp. 97-105, 2010. [Acceptance rate 16/140, 11.4%, DOI: 10.1109/QUATIC.2010.15] - **Best Paper Award for the Verification and Validation Track**

1. A. Filieri, C. Ghezzi, V. Grassi, and R. Mirandola. *Reliability Analysis of Component-Based Systems with Multiple Failure Modes.* In Component Based Software Engineering (CBSE), pp. 1-20, 2010. [Acceptance rate 14/48, 29.2%, DOI: 10.1007/978-3-642-13238-4_1] - **Best Paper Award**

International Workshops and Other Venues

12. M. Maggio, A. V. Papadopoulos, A. Filieri and H. Hoffmann. *Self-adaptive video encoder: comparison of multiple adaptation strategies made simple.* Proceedings of the 12th International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS, 2017), [Acceptance rate 16/55, 29%, DOI: 10.1109/SEAMS.2017.16] - **Best Artifact Award**

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