

Work Address

Institute of Science and Technology (IST), Austria
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Home Address

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A-3400, Austria
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Krishnendu Chatterjee

Homepage: <http://pub.ist.ac.at/~kchatterjee>

**Personal
Information**

Year of Birth: 1978
Nationality: Indian

Education

- *Doctorate (PhD) in Computer Science* (Dec 2007)
University of California, Berkeley.
- *MS in Computer Science* (May 2004)
University of California, Berkeley
- *Bachelor of Technology (B.Tech (Hons.)) -Computer Science and Engineering,*
Indian Institute of Technology (IIT) - Kharagpur, India.
- *Higher Secondary Education : St. Xaviers College, Calcutta, India*
- *Secondary Education : Orient Day School, Calcutta, India*

**Research
Interests**

- Verification and control of reactive systems.
- Probabilistic model checking.
- Stochastic game theory.
- Application of formal methods and games for reliable systems.
- Game theory in logic, automata theory and verification.
- Reputation and trust management system for Wikipedia.
- Evolutionary game theory.

**PhD
Thesis**

- “*Stochastic ω -Regular Games*” under the supervision of Prof. Thomas A. Henzinger, at UC, Berkeley (thesis defended in 2007). It won the David J. Sakrison award from UC Berkeley for outstanding research, and Ackermann award from EACSL for outstanding dissertation in computer science logic.

**Academic
Employment**

- Professor at Institute of Science and Technology, Austria (IST Austria) (from April 2014–present).
- Assistant Professor at Institute of Science and Technology, Austria (IST Austria) (from June 2009–March 2014).
- Post-doctoral researcher with Prof. Luca de Alfaro at UC, Santa Cruz (from Feb 2008–to May 2009).

Research Group

Current group

1. Josef Tkadlec (PhD student).
2. Amir Kafshdar Goharshady (PhD student).
3. Laura Schmid (PhD student).
4. Viktor Toman (PhD student).
5. Rasmus Ibsen-Jensen (Postdoc).
6. Petr Novotny (Postdoc, IST Fellow).
7. Christian Hilbe (Postdoc, IST Fellow).

Alumni: PhD Students

1. Johannes Reiter [Johannes Ritschl Dissertation Prize, Lower Austria].
2. Martin Chmelik [Outstanding PhD Thesis, IST Austria].
3. Andreas Pavlogiannis.

Alumni: Postdoc

1. Florian Horn.
2. Mathieu Tracol.
3. Sasha Rubin.
4. Benjamin Aminof.
5. Jan Kretinsky [IST Fellow].
6. Tadeas Priklopil [IST Fellow, joint with Nick Barton].
7. Hongfei Fu.
8. Ventsislav Chonev.

Academic Awards and Honors

1. **ERC Start Grant** in 2011 awarded by European Research Council.
2. **Microsoft Faculty Fellowship Award** in 2011 for outstanding young faculty in computer science awarded by Microsoft Research.
3. **Golden Chalk Award** in June 2016 for teaching excellence at IST Austria
4. **Ackermann Award** in 2008 for PhD Thesis awarded by European Association of Computer Science Logic (EACSL) for “Outstanding Dissertation Award for Logic in Computer Science”, 2008.
5. **David J. Sakrison Memorial Prize** for PhD Thesis (awarded annually for a “truly outstanding and innovative piece of research documented in written form”), University of California, Berkeley, 2008.
6. **President of India Gold Medal** (most prestigious academic award in IIT) in the batch of 2001 for being the best student *in order of merit* among students of all B. Tech (Hons) and B. Arch courses in *IIT, Kharagpur*.
7. *Institute Silver Medal* for the academic year 2000-2001 for being adjudged the *best student* in order of merit among students graduating with B. Tech (Hons) degree in Computer Science and Engineering.

Professional Activities

PC Member

1. FOSSACS 2010.

2. LICS 2010.
3. CSL 2010.
4. GANDALF 2010.
5. FOSSACS 2011.
6. GANDALF 2011.
7. FSTTCS 2011.
8. FORMATS 2011.
9. Formal Methods (FM) 2012.
10. MOVEP 2012.
11. FORMATS 2012.
12. MFCS 2012.
13. MEMICS 2012.
14. FOSSACS 2013.
15. TASE 2013.
16. CONCUR 2013.
17. RP 2013.
18. Highlights 2013.
19. LPAR-19 2013.
20. HSCC 2014.
21. LICS 2014.
22. CSL 2014.
23. EATCS Summer School.
24. QAPL 2014.
25. Strategic Reasoning 2014 (SR 2014).
26. MOVEP 2014.
27. Formal Methods Integration Workshop (FMi 2014).
28. HSCC 2015.
29. FOSSACS 2015.
30. CAV 2015.
31. QAPL 2015.
32. RP (Reachability problems) 2015.
33. FMi 2015.
34. GANDALF 2015.
35. Highlights 2015.
36. FORMATS 2015.
37. Strategic Reasoning (SR) 2015.
38. MEMICS 2015.
39. FICS 2015.
40. POPL 2016 ERC.
41. LPAR-20, 2016.
42. TACAS 2016.

43. HSCC 2016.
44. ICALP 2016 Track C.
45. MOVEP 2016.
46. ATVA 2016.
47. RP 2016.
48. SR 2016.
49. GANDALF 2016.
50. FSTTCS 2016.
51. POPL 2017 ERC.
52. ICAPS 2017.
53. ICALP 2017 Track B.
54. MoRE 2018.
55. RP 2018.
56. FSTTTCS 2018 (Upcoming).

PC Chair

1. FORMATS 2010.
2. GPMFV Workshop 2010.
3. MFCS 2013.
4. SYNT 2014.

Editorial Board

1. IPL (Information Processing Letters).
2. I&C (Information and Computation).

Conference and Workshop Organization

1. FORMATS 2010.
2. GPMFV Workshop 2010.
3. AVM Meeting and ARiSE Kick-off 2011.
4. Dagstuhl workshop: Games and Decisions for Rigorous Systems Engineering.
5. RiSE Winter School 2013.
6. MFCS 2013.
7. LICS 2014 Local chair.
8. SYNT 2014.
9. Dagstuhl workshop: Non-zero sum games.

Publications Conferences and Workshops

1. *New Approaches for Almost-Sure Termination of Probabilistic Programs*
Mingzhang Huang, Hongfei Fu, and Krishnendu Chatterjee.
APLAS, 2018.

2. *Ergodic Mean-Payoff Games for the Analysis of Attacks in Crypto-Currencies*
Krishnendu Chatterjee, Amir Kafshdar Goharshady, Rasmus Ibsen-Jensen, and Yaron Velner.
CONCUR, 2018.
3. *Parameter-Independent Strategies for pMDPs via POMDPs*
Sebastian Arming, Ezio Bartocci, Krishnendu Chatterjee, Joost-Pieter Katoen and Ana Sokolova.
QEST, 2018.
4. *Secure Credit Reporting on the Blockchain*
Amir Kafshadr Goharshady, Ali Berhouz, and Krishnendu Chatterjee.
IEEE BlockchainApp, 2018.
5. *Expectation Optimization with Probabilistic Guarantees in POMDPs with Discounted-Sum Objectives*
Krishnendu Chatterjee, Adrian Elgyutt, Petr Novotny, and Owen Rouille.
IJCAI, 2018.
6. *Goal-HSVI: Heuristic Search Value Iteration for Goal POMDPs*
Karel Horak, Branislav Bosansky, and Krishnendu Chatterjee.
IJCAI, 2018.
7. *Computational Approaches for Stochastic Shortest Path on Succinct MDPs*
Krishnendu Chatterjee, Hongfei Fu, Amir Kafshadr Goharshady, and Nastaran Okati.
IJCAI, 2018.
8. *Symbolic Algorithms for Graphs and Markov Decision Processes with Fairness Objectives*
Krishnendu Chatterjee, Monika Henzinger, Veronika Loitzenbauer, Simin Oraee and Viktor Toman.
CAV, 2018.
9. *Efficient Algorithms for Asymptotic Bounds on Termination Time in VASS*
Tomas Brazdil, Krishnendu Chatterjee, Antonin Kucera, Petr Novotny, Dominik Velan and Florian Zuleger.
LICS, 2018.
10. *Sensor Synthesis for POMDPs with Reachability Objectives*
Krishnendu Chatterjee, Martin Chmelik, and Ufuk Topcu.
ICAPS, 2018.
11. *Algorithms and Conditional Lower bounds for Planning Problems*
Krishnendu Chatterjee, Wolfgang Dvorak, Monika Henzinger, and Alexander Svozil.
ICAPS, 2018.
12. *Quantitative Analysis of Smart Contracts*
Krishnendu Chatterjee, Amir Kafshdar Goharshady, and Yaron Velner
ESOP, 2018.
13. *Strategy Representation by Decision Trees in Reactive Synthesis*
Tomas Brazdil, Krishnendu Chatterjee, Jan Kretinsky, and Viktor Toman
TACAS, 2018.
14. *Lower Bounds for Symbolic Computation on Graphs: Strongly Connected Components, Liveness, Safety, and Diameter*
Krishnendu Chatterjee, Wolfgang Dvorak, Monika Henzinger, and Veronika Loitzenbauer
SODA, 2018.
15. *Optimal Dyck Reachability for Data-dependence and Alias Analysis*
Krishnendu Chatterjee, Bhavya Choudhary, and Andreas Pavlogiannis.
POPL, 2018.

16. *Lexicographic Ranking Supermartingales: An Efficient Approach to Termination of Probabilistic Programs*
Sheshansh Agrawal, Krishnendu Chatterjee, and Petr Novotny.
POPL, 2018.
17. *Data-centric Dynamic Partial Order Reduction*
Marek Chalupa, Krishnendu Chatterjee, Andreas Pavlogiannis, Nishant Sinha, and Kapil Vaidya.
POPL, 2018.
18. *Computing Average Response Time*
Krishnendu Chatterjee, Thomas A. Henzinger, and Jan Otop
Festschrift EAL 60, 2017.
19. *Bidirectional Nested Weighted Automata*
Krishnendu Chatterjee, Thomas A. Henzinger, and Jan Otop
CONCUR, 2017.
20. *JTDec: A Tool for Tree Decompositions in Soot*
Krishnendu Chatterjee, Amir Kafshdar Goharshady, and Andreas Pavlogiannis
ATVA, 2017.
21. *Faster Algorithms for Mean-Payoff Parity Games*
Krishnendu Chatterjee, Monika Henzinger, and Alexander Svozil
MFCS, 2017.
22. *Faster Monte-Carlo Algorithms for Fixation Probability of the Moran Process on Undirected Graphs*
Krishnendu Chatterjee, Rasmus Ibsen-Jensen, and Martin A. Nowak
MFCS, 2017.
23. *Strategy Complexity of Concurrent Safety Games*
Krishnendu Chatterjee, Kristoffer Arnsfelt Hansen, and Rasmus Ibsen-Jensen
MFCS, 2017.
24. *Improved Set-based Symbolic Algorithms for Parity Games*
Krishnendu Chatterjee, Wolfgang Dvorak, Monika Henzinger, and Veronika Loitzenbauer
CSL, 2017.
25. *Value Iteration for Long-run Average Reward in Markov Decision Processes*
Pranav Ashok, Krishnendu Chatterjee, Przemyslaw Daca, Jan Kretinsky, and Tobias Meggendorfer
CAV, 2017.
26. *Automated Recurrence Analysis for Almost-Linear Expected-Runtime Bounds*
Krishnendu Chatterjee, Hongfei Fu, and Aniket Murhekar
CAV, 2017.
27. *Non-polynomial Worst-case Analysis of Recursive Programs*
Krishnendu Chatterjee, Hongfei Fu, and Amir Kafshdar Goharshady
CAV, 2017.
28. *The Cost of Exactness in Quantitative Reachability*
Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger
KimFest, 2017.
29. *Faster Algorithms for Weighted Recursive State Machines*
Krishnendu Chatterjee, Bernhard Kragl, Samarth Mishra, and Andreas Pavlogiannis
ESOP, 2017.
30. *Optimizing Expectation with Guarantees in POMDPs*
Krishnendu Chatterjee, Petr Novotny, Guillermo A. Perez, Jean-Francois Raskin, and Djordje Zikelic
AAAI, 2017.

31. *Stochastic Invariants for Probabilistic Termination*
Krishnendu Chatterjee, Petr Novotny, and Djordje Zikelic
POPL, 2017.
32. *Quantitative Monitor Automata*
Krishnendu Chatterjee, Thomas A. Henzinger, and Jan Otop
SAS, 2016.
33. *Optimal Reachability and a Space-Time Tradeoff for Distance Queries in Constant-Treewidth Graphs*
Krishnendu Chatterjee, Rasmus Ibsen-Jensen, and Andreas Pavlogiannis
ESA, 2016.
34. *The Complexity of Deciding Legality of a Single Step of Magic: the Gathering*
Krishnendu Chatterjee, and Rasmus Ibsen-Jensen
ECAI, 2016.
35. *Conditionally Optimal Algorithms for Generalized Büchi Games*
Krishnendu Chatterjee, Wolfgang Dvorak, Monika Henzinger, and Veronika Loitzenbauer
MFCS, 2016.
36. *Nested Weighted Limit-Average Automata of Bounded Width*
Krishnendu Chatterjee, Thomas A. Henzinger, and Jan Otop
MFCS, 2016.
37. *Termination Analysis of Probabilistic Programs through Positivstellensatz's*
Krishnendu Chatterjee, Hongfei Fu, and Amir Kafshdar Goharshady
CAV, 2016.
38. *Computation Tree Logic for Synchronization Properties*
Krishnendu Chatterjee, and Laurent Doyen
ICALP, 2016.
39. *Game-theoretic models identify useful principles for peer collaboration in online learning platforms*
Vineet Pandey and Krishnendu Chatterjee
CSCW Companion, 2016.
40. *Model and Objective Separation with Conditional Lower Bounds: Disjunction is Harder than Conjunction*
Krishnendu Chatterjee, Wolfgang Dvorak, Monika Henzinger, and Veronika Loitzenbauer
LICS, 2016.
41. *Perfect-information Stochastic Games with Generalized Mean-Payoff Objectives*
Krishnendu Chatterjee, and Laurent Doyen
LICS, 2016.
42. *Quantitative Automata under Probabilistic Semantics*
Krishnendu Chatterjee, Thomas A. Henzinger, and Jan Otop
LICS, 2016.
43. *Robust Draws in Balanced Knockout Tournaments*
Krishnendu Chatterjee, Rasmus Ibsen-Jensen, and Josef Tkadlec
IJCAI, 2016.
44. *Optimal Cost Indefinite-Horizon Reachability in Goal DEC-POMDPs*
Krishnendu Chatterjee, and Martin Chmelik
ICAPS, 2016.
45. *Stochastic Shortest Path with Energy Constraints in POMDPs*
Tomas Brazdil, Krishnendu Chatterjee, Martin Chmelik, Anchit Gupta, and Peter Novotny
AAMAS, 2016.

46. *A Symbolic SAT-based Algorithm for Almost-sure Reachability with Small Strategies in POMDPs*
Krishnendu Chatterjee, Martin Chmelik, and Jessica Davies
AAAI, 2016.
47. *Algorithms for Algebraic Path Properties in Concurrent Systems of Constant Treewidth Components*
Krishnendu Chatterjee, Amir Kafshdar Goharshady, Rasmus Ibsen-Jensen, and Andreas Pavlogiannis
POPL, 2016.
48. *Algorithmic Analysis of Qualitative and Quantitative Termination Problems for Affine Probabilistic Programs*
Krishnendu Chatterjee, Hongfei Fu, Petr Novotny, and Rouzbeh Hasheminezhad
POPL, 2016.
49. *Counterexample Explanation by Learning Small Strategies in Markov Decision Processes*
Tomas Brazdil, Krishnendu Chatterjee, Martin Chmelik, Andreas Fellner, and Jan Kretinsky.
CAV, 2015.
50. *Faster Algorithms for Quantitative Verification in Constant Treewidth Graphs*
Krishnendu Chatterjee, Rasmus Ibsen-Jensen, and Andreas Pavlogiannis
CAV, 2015.
51. *Edit Distance for Pushdown Automata*
Krishnendu Chatterjee, Thomas A. Henzinger, Rasmus Ibsen-Jensen, and Jan Otop
ICALP, 2015.
52. *The Complexity of Synthesis from Probabilistic Components*
Krishnendu Chatterjee, Laurent Doyen, and Moshe Y. Vardi
ICALP, 2015.
53. *Nested Weighted Automata*
Krishnendu Chatterjee, Thomas A. Henzinger, and Jan Otop
LICS, 2015.
54. *Unifying Two Views on Multiple Mean-Payoff Objectives in Markov Decision Processes*
Krishnendu Chatterjee, Zuzana Komarkova, and Jan Kretinsky
LICS, 2015.
55. *Improved Algorithms for One-Pair and k-Pair Streett Objectives*
Krishnendu Chatterjee, Monika Henzinger, and Veronika Loitzenbauer
LICS, 2015.
56. *Qualitative Analysis of POMDPs with Temporal Logic Specifications for Robotics Applications*
Krishnendu Chatterjee, Martin Chmelik, Raghav Gupta, and Ayush Kanodia
ICRA, 2015.
57. *Assume-Guarantee Synthesis for Concurrent Reactive Programs with Partial Information*
Roderick Bloem, Krishnendu Chatterjee, Swen Jacobs, and Robert Koenighofer
TACAS, 2015.
58. *MultiGain: A controller synthesis tool for MDPs with multiple mean-payoff objectives*
Tomas Brazdil, Krishnendu Chatterjee, Vojtech Forejt, and Antonin Kucera
TACAS, 2015.
59. *Temporal Logic Control for Stochastic Linear Systems using Abstraction Refinement of Probabilistic Games*

- Maria Svorenova, Jan Kretinsky, Martin Chmelik, Krishnendu Chatterjee, Ivana Cerna, and Calin Belta
HSCC, 2015.
60. *Temporal Logic Motion Planning using POMDPs with Parity Objectives*
 Maria Svorenova, Martin Chmelik, Kevin Leahy, Hasan Ferit Eniser, Krishnendu Chatterjee, Ivana Cerna, and Calin Belta
HSCC, 2015.
 61. *Optimal Cost Almost-sure Reachability in POMDPs*
 Krishnendu Chatterjee, Martin Chmelik, Raghav Gupta, and Ayush Kanodia
AAAI, 2015.
 62. *Automatic Generation of Alternative Starting Positions for Traditional Board Games*
 Umair Z. Ahmmed, Krishnendu Chatterjee, and Sumit Gulwani
AAAI, 2015 (Selected for oral presentation).
 63. *Faster Algorithms for Algebraic Path Properties in RSMs with Constant Treewidth*
 Krishnendu Chatterjee, Prateesh Goyal, Rasmus Ibsen-Jensen, and Andreas Pavlogiannis
POPL, 2015.
 64. *Quantitative Interprocedural Analysis*
 Krishnendu Chatterjee, Andreas Pavlogiannis, and Yaron Verner
POPL, 2015.
 65. *The Value 1 Problem Under Finite-memory Strategies for Concurrent Mean-payoff Games*
 Krishnendu Chatterjee and Rasmus Ibsen-Jensen
SODA, 2015.
 66. *A Framework for Automated Competitive Analysis of On-line Scheduling of Firm-Deadline Tasks*
 Krishnendu Chatterjee, Andreas Pavlogiannis, Alexander Kößler, and Ulrich Schmid
RTSS, 2014.
 67. *Multidimensional Quantitative Games and Markov Decision Processes (Invited Tutorial)*
 Krishnendu Chatterjee
ATVA, 2014.
 68. *The Complexity Landscape of Partial-observation Stochastic Games (Invited Talk)*
 Krishnendu Chatterjee
ATVA, 2014.
 69. *Verification of Markov Decision Processes using Learning Algorithms*
 Tomas Brazdil, Krishnendu Chatterjee, Martin Chmelik, Vojtech Forejt, Jan Kretinsky, Marta Kwiatkowska, David Parker and Mateusz Ujma
ATVA, 2014.
 70. *SYNT 2014*
 Krishnendu Chatterjee, Ruediger Ehlers and Susmit Jha (Editors)
 71. *Game Theoretic Secure Localization in Wireless Sensor Networks*
 Susmit Jha, Stavros Tripakis, Sanjit Seshia and Krishnendu Chatterjee
IoT (Internet of Things), 2014.
 72. *Qualitative Concurrent Parity Games: Bounded Rationality*
 Krishnendu Chatterjee
CONCUR, 2014.
 73. *Partial-observation Stochastic Reachability and Parity Games*
 Krishnendu Chatterjee
MFCS, 2014 (Invited paper).

74. *CEGAR for Qualitative Analysis of Probabilistic Systems*
Krishnendu Chatterjee, Martin Chmelik and Przemyslaw Daca
CAV, 2014.
75. *Games with a Weak Adversary*
Krishnendu Chatterjee and Laurent Doyen
ICALP, 2014.
76. *The Complexity of Ergodic Mean-payoff Games*
Krishnendu Chatterjee and Rasmus Ibsen-Jensen
ICALP, 2014.
77. *Perfect-Information Stochastic Mean-Payoff Parity Games*
Krishnendu Chatterjee, Laurent Doyen, Hugo Gimbert and Youssouf Oualhadj
FoSSaCS, 2014.
78. *The Complexity of Partial-observation Stochastic Parity Games With Finite-memory Strategies*
Krishnendu Chatterjee, Laurent Doyen, Sumit Nain and Moshe Y. Vardi
FoSSaCS, 2014.
79. *Edit Distance for Timed Automata*
Krishnendu Chatterjee, Rasmus Ibsen-Jensen, and Rupak Majumdar
HSCC, 2014.
80. *Doomsday Equilibria for Omega-Regular Games*
Krishnendu Chatterjee, Laurent Doyen, Emmanuel Filiot and Jean-Francois Raskin
VMCAI, 2014.
81. *Multi-objective discounted reward verification in graphs and MDPs*
Krishnendu Chatterjee, Vojtech Forejt, and Dominik Wojtczak
LPAR-19, 2013
82. *Distributed Synthesis for LTL Fragments*
Krishnendu Chatterjee, Thomas A. Henzinger, Jan Otop and Andreas Pavlogiannis
FMCAD 13
83. *Approximating the minimum cycle mean*
Krishnendu Chatterjee, Monika Henzinger, Sebastian Krinninger and Veronika Loitzenbauer
GANDALF 13
84. *What is Decidable about Partially Observable Markov Decision Processes with omega-Regular Objectives*
Krishnendu Chatterjee, Martin Chmelik and Mathieu Tracol
CSL 13
85. *Infinite-state games with finitary conditions*
Krishnendu Chatterjee and Nathanael Fijalkow
CSL 13
86. *Looking at Mean-Payoff and Total-Payoff through Windows*
Krishnendu Chatterjee, Laurent Doyen, Mickael Randour and Jean-Francois Raskin
ATVA 13
87. *Hyperplane Separation Technique for Multidimensional Mean-Payoff Games*
Krishnendu Chatterjee and Yaron Velner
CONCUR 13
88. *MFCS 2013*
Krishnendu Chatterjee and Jiri Sgall (Editors)
89. *POMDPs under Probabilistic Semantics*
Krishnendu Chatterjee and Martin Chmelik
UAI 13 (Selected for oral presentation)

90. *Trading Performance for Stability in Markov Decision Processes*
Tomas Brazdil, Krishnendu Chatterjee, Vojtech Forejt, and Antonin Kucera
LICS 13
91. *Automata with Generalized Rabin Pairs for Probabilistic Model Checking and LTL Synthesis*
Krishnendu Chatterjee, Andreas Gaiser and Jan Kretinsky
CAV 13
92. *Faster Algorithms for Markov Decision Processes with Low Treewidth*
Krishnendu Chatterjee and Jakub Lacki
CAV 13
93. *TTP: Tool for Tumor Progression*
Johannes G. Reiter, Ivana Bozic, Krishnendu Chatterjee and Martin A. Nowak
CAV 13
94. *Quantitative Timed Simulation Functions and Refinement Metrics for Real-Time Systems*
Krishnendu Chatterjee and Vinayak Prabhu
HSCC 13
95. *Automated Analysis of Real-Time Scheduling using Graph Games*
Krishnendu Chatterjee, Alexander Kößler, and Ulrich Schmid
HSCC 13
96. *Games and Decisions for Rigorous Systems Engineering (Dagstuhl Seminar 12461)*
Nikolaj Bjorner, Krishnendu Chatterjee, Laura Kovacs, and Rupak Majumdar
Dagstuhl Reports (Editor)
97. *How to travel between languages*
Krishnendu Chatterjee, Siddhesh Chaubal, and Sasha Rubin
LATA 13
98. *Average Case Analysis of the Classical Algorithm for Markov Decision Processes with Büchi Objectives*
Krishnendu Chatterjee, Manas Joglekar and Nisarg Shah
FSTTCS 12
99. *Strategy complexity of finite-horizon Markov decision processes and simple stochastic games*
Krishnendu Chatterjee, Rasmus Ibsen-Jensen
MEMICS 12
100. *Finite Automata with Time-Delay Blocks*
Krishnendu Chatterjee, Thomas A. Henzinger and Vinayak Prabhu
EMSOFT 12
101. *Equivalence of Games with Probabilistic Uncertainty and Partial-observation Games*
Krishnendu Chatterjee, Martin Chmelik, and Rupak Majumdar
ATVA 12
102. *Polynomial-time Algorithms for Energy Games with Special Weight Structures*
Krishnendu Chatterjee, Monika Henzinger, Sebastian Krinninger and Danupon Nanongkai
ESA 12
103. *Faster Algorithms for Alternating Refinement Relations*
Krishnendu Chatterjee, Siddhesh Chaubal and Pritish Kamath
CSL 12
104. *Strategy Synthesis for Multi-dimensional Quantitative Objectives*
Krishnendu Chatterjee, Mickael Randour and Jean-Francois Raskin
CONCUR 12

105. *Partial-Observation Stochastic Games: How to Win when Belief Fails*
Krishnendu Chatterjee and Laurent Doyen
LICS 12
106. *Mean-Payoff Pushdown Games*
Krishnendu Chatterjee and Yaron Velner
LICS 12
107. *Decidable Problems for Probabilistic Automata on Infinite Words*
Krishnendu Chatterjee and Mathieu Tracol
LICS 12
108. *Efficient Controller Synthesis for Consumption Games with Multiple Resource Types*
Tomas Brazdil, Krishnendu Chatterjee, Antonin Kucera and Petr Novotny
CAV 12
109. *Robustness of Structurally Equivalent Concurrent Parity Games*
Krishnendu Chatterjee
FOSSACS 12
110. *An $O(n^2)$ Time Algorithm for Alternating Büchi Games*
Krishnendu Chatterjee and Monika Henzinger
SODA 12
111. *Synthesizing Protocols for Digital Contract Signing*
Krishnendu Chatterjee and Vishwanath Raman
VMCAI 2012
112. *Games and Markov decision Processes with Mean-payoff Parity and Energy Parity Objectives*
Krishnendu Chatterjee and Laurent Doyen
MEMICS, 2011
113. *Minimum Attention Controller Synthesis for Omega-Regular Objectives*
Krishnendu Chatterjee and Rupak Majumdar
FORMATS, 2011
114. *On Memoryless Quantitative Objectives*
Krishnendu Chatterjee, Laurent Doyen and Rohit Singh
FCT, 2011
115. *Energy and Mean-Payoff Parity Markov Decision Processes*
Krishnendu Chatterjee and Laurent Doyen
MFCS, 2011
116. *Graph Games with Reachability Objectives*
Krishnendu Chatterjee
Reachability Problems, 2011 (Invited Paper)
117. *Specification-Centered Robustness*
Roderick Bloem, Krishnendu Chatterjee, Karin Greimel, Thomas A. Henzinger, and Barbara Jobstmann
International Symposium on Industrial Embedded Systems, 2011 (Invited Paper)
118. *A reduction from parity games to simple stochastic games*
Krishnendu Chatterjee and Nathanael Fijalkow
GANDALF 2011
119. *The Complexity of Quantitative Information Flow*
Pavol Cerny, Krishnendu Chatterjee and Thomas A. Henzinger
CSF 2011
120. *Quantitative Synthesis of Concurrent Programs*
Pavol Cerny, Krishnendu Chatterjee, Thomas A. Henzinger, Arjun Radhakrishna and Rohit Singh
CAV 2011

121. *Symbolic Algorithms for Qualitative Analysis of Markov Decision Processes with Buchi Objectives*
Krishnendu Chatterjee, Monika Henzinger, Manas Joglekar and Nisarg Shah
CAV 2011
122. *Two Views on Multiple Mean Payoff Objectives in Markov Decision Processes*
Tomas Brazdil, Vaclav Brozek, Krishnendu Chatterjee, Vojtech Forejt, and Antonin Kucera
LICS 2011
123. *Temporal Specifications with Accumulative Values*
Udi Boker, Krishnendu Chatterjee, Thomas A. Henzinger and Orna Kupferman
LICS 2011
124. *Finitary Languages*
Krishnendu Chatterjee and Nathanael Fijalkow
LATA 2011
125. *The Complexity of Request-response Games*
Krishnendu Chatterjee, Thomas A. Henzinger and Florian Horn
LATA 2011
126. *Synthesis of Memory Efficient Real-Time Controllers for Safety Objectives*
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Proceedings of 3rd International Conference on Quantitative Evaluation of Systems (QEST 2006)

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International Conference on Information Technology, 2001 (CIT 2001)

Journals

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Journal of Cancer Research
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eLife
Nature News and Views: NL Komarova, CR Boland. Cancer: Calculated treatment. Nature 499, 291-292 (2013).
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Sebastian Novak, Krishnendu Chatterjee, and Martin A. Nowak
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Krishnendu Chatterjee, Luca de Alfaro, Marco Faella and Axel Legay
Logical Methods in Computer Science (LMCS)
80. *Finitary Winning in ω -Regular Games*
Krishnendu Chatterjee, Thomas A. Henzinger and Florian Horn
ACM Transactions on Computational Logic (TOCL)
81. *Reduction of Stochastic Parity to Stochastic Mean-payoff Games*
Krishnendu Chatterjee and Thomas A. Henzinger
Information Processing Letters (IPL)
82. *Concurrent Games with Tail Objectives*
Krishnendu Chatterjee
Theoretical Computer Science (TCS)
83. *Stochastic Limit-average Games are in EXPTIME*
Krishnendu Chatterjee, Rupak Majumdar and Thomas A. Henzinger
International Journal of Game Theory
84. *A Survey of Stochastic ω -regular Games*
Krishnendu Chatterjee and Thomas A. Henzinger
Journal of Computer Science and Systems (JCSS)
85. *Algorithms for Omega-Regular Games with Imperfect Information*
Krishnendu Chatterjee, Laurent Doyen, Thomas A. Henzinger and Jean-Francois
Raskin
Logical Methods in Computer Science (LMCS) 3 (3), 2007
86. *Games with Secure Equilibria*
Krishnendu Chatterjee, Thomas A. Henzinger and Marcin Jurdziński
Theoretical Computer Science (TCS) 365 (2), 67-82, 2006
87. *The Power of First Order Quantification over States in Branching and Linear Time
Temporal Logics*
Krishnendu Chatterjee, Pallab Dasgupta and P.P. Chakrabarti
Information Processing Letters (IPL) 91 (5) 201-210, 2004
88. *Stack Size Analysis of Interrupt Driven Programs*
Krishnendu Chatterjee, Di Ma, Rupak Majumdar, Tian Zhao, Thomas A. Henzinger
and Jens Palsberg
Information and Computation, 194 (2), 144-174, 2004
89. *A Branching Time Temporal Framework For Quantitative Reasoning*
Krishnendu Chatterjee, Pallab Dasgupta and P.P. Chakrabarti
Journal of Automated Reasoning (JAR) 30 (2), 205-232, 2003

**Tools
Associated
With**

1. *QUASY*.
2. *CHIC* (Checking Interface Compatibility).
3. *WikiTrust*.
4. *Alpaga*.

5. *GIST*.
6. *TTP*.
7. *MultiGain*.

Patents

1. **IBM Invention Disclosure:** “ Remote Authentication of Fingerprints Over An Insecure Network” (United States Patent 6778688)
Pradeep Kumar Dubey, Pooja Aggarwal, Krishnendu Chatterjee, Charanjit Singh Jutla and Vijay Kumar.

Grants

1. ERC Start Grant.
2. Microsoft Faculty Fellowship Award Grant.
3. FWF Grant (with Monika Henzinger).
4. FWF NFN Grant ARiSE.
5. WWTF Grant (with Monika Henzinger).

**Invited Talks
and Tutorials**

1. PAuL (Workshop) 2006.
2. MFCS (Conference) 2009.
3. MOVEP Summer School 2010.
4. LPAR (Conference) 2010.
5. Paris Games Meeting (Workshop) 2010.
6. Brno Colloquium 2010.
7. ARTEMIS (Workshop) 2011.
8. QEST (Conference) Tutorial 2011.
9. FMR (Workshop) 2011.
10. Reachability Problems (Workshop) 2011.
11. Harvard EconCS Seminar 2011.
12. ULB (Brussels) Seminar 2011.
13. GASICS/DOTS (Workshop) 2011.
14. MEMICS, (Workshop) 2011.
15. Vienna Winter School 2012.
16. Paris LIP6 invited seminar, 2012.
17. GAMES Meeting 2012.
18. IIT Kharagpur IEEE Seminar, 2012.
19. ENS Cachan Seminar, 2013.
20. Winter School at IST, 2013.
21. Strategic Reasoning Workshop ETAPS, 2013.
22. MFCS 2014.
23. ATVA 2014 (Tutorial and invited talk).
24. ICALP Workshop: Games in Theory and Practice, 2018.

**Thesis
Review
Committee**

1. Thesis proposal review: Jan Kretinsky; Petr Novotny.
2. Qualifying exam committee: Damien Zufferey; Anmol Tomar; Arjun Radhakrishna; Johannes Reiter; Martin Chmelik; David Hahn; Andreas Pavlogiannis; Thosten Tarrach, Hamza Abusallah, Bernhard Kragl, Josef Tkadlec.

3. Thesis review committee: Ocan Sankur, Julie De Pril, Arjun Radhakrishna, Guillermo Perez, Thorsten Tarrach.
4. Thesis defense chair: Viktoriia Sharmanska.

Technical Reports (that have not appeared in proceedings of Conferences or Journals)

1. *Linear Time Algorithm for Weak Parity Games*
Krishnendu Chatterjee
Technical Report: EECS-2006-153, EECS Department, University of California, Berkeley, 2006.
2. *Stochastic ω -Regular Games*
Krishnendu Chatterjee
Thesis for partial fulfillment of Ph.D, UC Berkeley
3. *Stack-size analysis for Interrupt Driven Programs*
Krishnendu Chatterjee
Thesis for partial fulfillment of Master of Science, UC Berkeley
4. *Weighted Quantified CTL: An efficient logic for verifying extremal timing properties of Timed Model*
Krishnendu Chatterjee
Thesis for partial fulfillment of Bachelor of Technology (Hons) degree, Indian Institute of Technology, Kharagpur

References

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