Curriculum Vitae
Long version

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https://nathanael-fijalkow.github.io/

Research Positions and Education

Current

Junior Full-time Researcher — **CNRS, LaBRI, Bordeaux**
Chargé de recherche — *Jan. 2018 – now*

Research Fellow — **The Alan Turing Institute, London**
Logical Foundations of Data Science — *Jan. 2017 – now (5 years fellowship)*
Mentored by Ranko Lazić

Research Fellow — **Simons Institute, Berkeley**
Theoretical Foundations of Computer Systems — *Jan. 2021 – May. 2021*
Mentored by Ras Bodik

Past

Research Fellow — **Simons Institute, Berkeley**
Logical Structures in Computation — *Aug. 2016 – Dec. 2016*
Mentored by Prakash Panangaden

Research Assistant — **University of Oxford**
Dynamical Systems — *Nov. 2015 – July 2016*
Jointly supervised by Joël Ouaknine and James Worrell

Education

PhD in Computer Science — **Paris 7 & Warsaw**
Counting and Randomising in Automata Theory — *Sep. 2012 – Oct. 2015*
Jointly supervised by Mikołaj Bojańczyk and Thomas Colcombet

Normalien (alumnus) — **École Normale Supérieure de Cachan**
Majoring in Computer Science — *Sep. 2008 – Aug. 2012*

M.Sc. MPRI (Computer Science) — **Paris 7**
with high honours — *2010 – 2012*
Specialisation in Automata Theory and Logics

M.Sc. LMFI (Mathematical Logics) — **Paris 7**
with high honours — *2009 – 2011*

B.Sc. — **Paris 7**
with high honours, Majoring in Computer Science and Mathematics — *2008 – 2009*

Classes Préparatoires aux Grandes Écoles — **Paris**
Lycée Charlemagne and Louis-le-grand — *2006 – 2008*

Publications

My research is in theoretical computer science. My interests include games, machine learning, automata and logic, verification, and dynamical systems.

Peer-Reviewed Journals

[1] Nathanaël Fijalkow, Guillaume Lagarde, Pierre Ohlmann, and Olivier Serre. "Lower Bounds for Arithmetic Circuits via the Hankel Matrix". In: *Computational Complexity*. 2021.

[2] Nathanaël Fijalkow, Cristian Riveros, and James Worrell. "Probabilistic Automata of Bounded Ambiguity". In: *Information and Computation* (2020). DOI: https://doi.org/10.1016/j.ic.2020.104648. URL: http://www.sciencedirect.com/science/article/pii/S089054012030136X.

[3] Alexander Clark and Nathanaël Fijalkow. "Consistent Unsupervised Estimators for Anchored PCFGs". In: *Transactions of the Association for Computational Linguistics* 8 (2020). URL: https://transacl.org/ojs/index.php/tacl/article/view/1936.

[4] Nathanaël Fijalkow. "Lower bounds for the state complexity of probabilistic languages and the language of prime numbers". In: *The Journal of Logic and Computation* 30.1 (2020). DOI: 10.1093/logcom/exaa007. URL: https://doi.org/10.1093/logcom/exaa007.

[5] Nathanaël Fijalkow, Stefan Kiefer, and Mahsa Shirmohammadi. "Trace Refinement in Labelled Markov Decision Processes". In: *Logical Methods in Computer Science* 16.2 (2020). DOI: 10.23638/LMCS-16(2:10)2020. URL: https://doi.org/10.23638/LMCS-16(2:10)2020.

[6] Florence Clerc, Nathanaël Fijalkow, Bartek Klin, and Prakash Panangaden. "Expressiveness of probabilistic modal logics: A gradual approach". In: *Information and Computation* 267 (2019). DOI: 10.1016/j.ic.2019.04.002. URL: https://doi.org/10.1016/j.ic.2019.04.002.

[7] Nathanaël Fijalkow, Pierre Ohlmann, Joël Ouaknine, Amaury Pouly, and James Worrell. "Complete Semialgebraic Invariant Synthesis for the Kannan-Lipton Orbit Problem". In: *Theory of Computing Systems* 63.5 (2019). DOI: 10.1007/s00224-019-09913-3. URL: https://doi.org/10.1007/s00224-019-09913-3.

[8] Nathanaël Fijalkow. "Profinite techniques for probabilistic automata and the Markov Monoid algorithm". In: *Theoretical Computer Science* 680 (2017). DOI: 10.1016/j.tcs.2017.04.006. URL: https://doi.org/10.1016/j.tcs.2017.04.006.

[9] Nathanaël Fijalkow and Charles Paperman. "Monadic Second-Order Logic with Arbitrary Monadic Predicates". In: *ACM Transactions on Computational Logic* 18.3 (2017). DOI: 10.1145/3091124. URL: https://doi.org/10.1145/3091124.

[10] Nathanaël Fijalkow, Hugo Gimbert, Edon Kelmendi, and Youssouf Oualhadj. "Deciding the value 1 Problem for Probabilistic Leaktight Automata". In: *Logical Methods in Computer Science* 11.1 (2015). DOI: 10.2168/LMCS-11(2:12)2015. URL: https://doi.org/10.2168/LMCS-11(2:12)2015.

[11] Nathanaël Fijalkow and Martin Zimmermann. "Cost-Parity and Cost-Streett Games". In: *Logical Methods in Computer Science* 10.2 (2014). DOI: 10.2168/LMCS-10(2:14)2014. URL: https://doi.org/10.2168/LMCS-10(2:14)2014.

[12] Nathanaël Fijalkow and Florian Horn. "Les jeux d'accessibilité généralisée". In: *Technique et Science Informatiques* 32.9-10 (2013). DOI: 10.3166/tsi.32.931-949. URL: https://doi.org/10.3166/tsi.32.931-949.

Proceedings of Peer-Reviewed International Conferences

[13] Nathanaël Fijalkow. "The Theory of Universal Graphs for Games: Past and Future". In: *Coalgebraic Methods in Computer Science, CMCS*. Ed. by Daniela Petrisan and Jurriaan Rot. Vol. 12094. Lecture Notes in Computer Science. Springer, 2020. DOI: 10.1007/978-3-030-57201-3_1. URL: https://doi.org/10.1007/978-3-030-57201-3_1.

[14] Nathanaël Fijalkow, Pawel Gawrychowski, and Pierre Ohlmann. "Value Iteration Using Universal Graphs and the Complexity of Mean Payoff Games". In: *Mathematical Foundations of Computer Science, MFCS*. Ed. by Javier Esparza and Daniel Král'. Vol. 170. LIPIcs. Schloss Dagstuhl - Leibniz-Zentrum für Informatik, 2020. DOI: 10.4230/LIPIcs.MFCS.2020.34. URL: https://doi.org/10.4230/LIPIcs.MFCS.2020.34.

[15] Judith Clymo, Haik Manukian, Nathanaël Fijalkow, Adrià Gascón, and Brooks Paige. "Data Generation for Neural Programming by Example". In: *AI&STATS*. Ed. by Silvia Chiappa and Roberto Calandra. Vol. 108. Proceedings of Machine Learning Research. PMLR, 2020. URL: http://proceedings.mlr.press/v108/clymo20a.html.

[16] Nathanaël Fijalkow, Bastien Maubert, Aniello Murano, and Moshe Y. Vardi. "Assume-Guarantee Synthesis for Prompt Linear Temporal Logic". In: *International Joint Conference on Artificial Intelligence, IJCAI*. Ed. by Christian Bessiere. ijcai.org, 2020. DOI: 10.24963/ijcai.2020/17. URL: https://doi.org/10.24963/ijcai.2020/17.

[17] Corentin Barloy, Nathanaël Fijalkow, Nathan Lhote, and Filip Mazowiecki. "A Robust Class of Linear Recurrence Sequences". In: *Computer Science in Logic, CSL*. 2020. DOI: 10.4230/LIPIcs.CSL.2020.9. URL: https://doi.org/10.4230/LIPIcs.CSL.2020.9.

[18] Thomas Colcombet, Nathanaël Fijalkow, and Pierre Ohlmann. "Controlling a Random Population". In: *Foundations of Software Science and Computation Structures, FoSSaCS*. 2020. DOI: 10.1007/978-3-030-45231-5_7. URL: https://doi.org/10.1007/978-3-030-45231-5_7.

[19] Nathanaël Fijalkow, Guillaume Lagarde, Pierre Ohlmann, and Olivier Serre. "Lower Bounds for Arithmetic Circuits via the Hankel Matrix". In: *Symposium on Theoretical Aspects of Computer Science, STACS*. 2020. DOI: 10.4230/LIPIcs.STACS.2020.24. URL: https://doi.org/10.4230/LIPIcs.STACS.2020.24.

[20] Thomas Colcombet and Nathanaël Fijalkow. "Universal Graphs and Good for Games Automata: New Tools for Infinite Duration Games". In: *Foundations of Software Science and Computation Structures, FoSSaCS*. 2019. DOI: 10.1007/978-3-030-17127-8_1. URL: https://doi.org/10.1007/978-3-030-17127-8_1.

[21] Nathanaël Fijalkow, Joël Ouaknine, Amaury Pouly, João Sousa Pinto, and James Worrell. "On the decidability of reachability in linear time-invariant systems". In: *International Conference on Hybrid Systems: Computation and Control, HSCC*. 2019. DOI: 10.1145/3302504.3311796. URL: https://doi.org/10.1145/3302504.3311796.

[22] Nathanaël Fijalkow, Engel Lefaucheux, Pierre Ohlmann, Joël Ouaknine, Amaury Pouly, and James Worrell. "On the Monniaux Problem in Abstract Interpretation". In: *International Symposium on Static Analysis, SAS*. 2019. DOI: 10.1007/978-3-030-32304-2_9. URL: https://doi.org/10.1007/978-3-030-32304-2_9.

[23] Wojciech Czerwiński, Laure Daviaud, Nathanaël Fijalkow, Marcin Jurdziński, Ranko Lazić, and Paweł Parys. "Universal trees grow inside separating automata: Quasi-polynomial lower bounds for parity games". In: *International Symposium on Discrete Algorithms, SODA*. Ed. by Timothy M. Chan. SIAM, 2019. DOI: 10.1137/1.9781611975482.142. URL: https://doi.org/10.1137/1.9781611975482.142.

[24] Nathanaël Fijalkow. "The State Complexity of Alternating Automata". In: *Logic in Computer Science, LICS*. 2018. DOI: 10.1145/3209108.3209167. URL: https://doi.org/10.1145/3209108.3209167.

[25] Nathanaël Fijalkow, Bastien Maubert, Aniello Murano, and Sasha Rubin. "Quantifying Bounds in Strategy Logic". In: *Computer Science in Logic, CSL*. 2018. DOI: 10.4230/LIPIcs.CSL.2018.23. URL: https://doi.org/10.4230/LIPIcs.CSL.2018.23.

[26] Mathias Ruggaard Pedersen, Nathanaël Fijalkow, Giorgio Bacci, Kim G. Larsen, and Radu Mardare. "Timed Comparisons of Semi-Markov Processes". In: *International Conference on Language and Automata Theory and Applications, LATA*. 2018. DOI: 10.1007/978-3-319-77313-1_21. URL: https://doi.org/10.1007/978-3-319-77313-1_21.

[27] Nathanaël Fijalkow, Hugo Gimbert, Edon Kelmendi, and Denis Kuperberg. "Stamina: Stabilisation Monoids in Automata Theory". In: *International Conference on Implementation and Application of Automata, CIAA*. 2017. DOI: 10.1007/978-3-319-60134-2_9. URL: https://doi.org/10.1007/978-3-319-60134-2_9.

[28] Nathanaël Fijalkow, Bartek Klin, and Prakash Panangaden. "Expressiveness of Probabilistic Modal Logics, Revisited". In: *International Colloquium on Automata, Languages, and Programming, ICALP*. 2017. DOI: 10.4230/LIPIcs.ICALP.2017.105. URL: https://doi.org/10.4230/LIPIcs.ICALP.2017.105.

[29] Nathanaël Fijalkow, Pierre Ohlmann, Joël Ouaknine, Amaury Pouly, and James Worrell. "Semialgebraic Invariant Synthesis for the Kannan-Lipton Orbit Problem". In: *Symposium on Theoretical Aspects of Computer Science, STACS*. 2017. DOI: 10.4230/LIPIcs.STACS.2017.29. URL: https://doi.org/10.4230/LIPIcs.STACS.2017.29.

[30] Nathanaël Fijalkow, Cristian Riveros, and James Worrell. "Probabilistic Automata of Bounded Ambiguity". In: *International Conference on Concurrency Theory, CONCUR*. 2017. DOI: 10.4230/LIPIcs.CONCUR.2017.19. URL: https://doi.org/10.4230/LIPIcs.CONCUR.2017.19.

[31] Thomas Colcombet and Nathanaël Fijalkow. "The Bridge Between Regular Cost Functions and Omega-Regular Languages". In: *International Colloquium on Automata, Languages, and Programming, ICALP*. 2016. DOI: 10.4230/LIPIcs.ICALP.2016.126. URL: https://doi.org/10.4230/LIPIcs.ICALP.2016.126.

[32] Nathanaël Fijalkow. "Characterisation of an Algebraic Algorithm for Probabilistic Automata". In: *Symposium on Theoretical Aspects of Computer Science, STACS*. 2016. DOI: 10.4230/LIPIcs.STACS.2016.34. URL: https://doi.org/10.4230/LIPIcs.STACS.2016.34.

[33] Nathanaël Fijalkow. "Online Space Complexity of Probabilistic Automata". In: *Logical Foundations of Computer Science, LFCS*. 2016. DOI: 10.1007/978-3-319-27683-0_8. URL: https://doi.org/10.1007/978-3-319-27683-0_8.

[34] Nathanaël Fijalkow, Stefan Kiefer, and Mahsa Shirmohammadi. "Trace Refinement in Labelled Markov Decision Processes". In: *Foundations of Software Science and Computation Structures, FoSSaCS*. 2016. DOI: 10.1007/978-3-662-49630-5_18. URL: https://doi.org/10.1007/978-3-662-49630-5_18.

[35] Nathanaël Fijalkow, Florian Horn, Denis Kuperberg, and Michał Skrzypczak. "Trading Bounds for Memory in Games with Counters". In: *International Colloquium on Automata, Languages, and Programming, ICALP*. 2015. DOI: 10.1007/978-3-662-47666-6_16. URL: https://doi.org/10.1007/978-3-662-47666-6_16.

[36] Nathanaël Fijalkow and Michał Skrzypczak. "Irregular Behaviours for Probabilistic Automata". In: *Reachability Problems*. 2015. DOI: 10.1007/978-3-319-24537-9_4. URL: https://doi.org/10.1007/978-3-319-24537-9_4.

[37] Thomas Colcombet, Nathanaël Fijalkow, and Florian Horn. "Playing Safe". In: *Foundations of Software Technology and Theoretical Computer Science, FSTTCS*. 2014. DOI: 10.4230/LIPIcs.FSTTCS.2014.379. URL: https://doi.org/10.4230/LIPIcs.FSTTCS.2014.379.

[38] Nathanaël Fijalkow, Hugo Gimbert, Florian Horn, and Youssouf Oualhadj. "Two Recursively Inseparable Problems for Probabilistic Automata". In: *Mathematical Foundations of Computer Science, MFCS*. 2014. DOI: 10.1007/978-3-662-44522-8_23. URL: https://doi.org/10.1007/978-3-662-44522-8_23.

[39] Nathanaël Fijalkow and Denis Kuperberg. "ACME: Automata with Counters, Monoids and Equivalence". In: *Automated Technology for Verification and Analysis, ATVA*. 2014. DOI: 10.1007/978-3-319-11936-6_12. URL: https://doi.org/10.1007/978-3-319-11936-6_12.

[40] Nathanaël Fijalkow and Charles Paperman. "Monadic Second-Order Logic with Arbitrary Monadic Predicates". In: *Mathematical Foundations of Computer Science, MFCS*. 2014. DOI: 10.1007/978-3-662-44522-8_24. URL: https://doi.org/10.1007/978-3-662-44522-8_24.

[41] Krishnendu Chatterjee and Nathanaël Fijalkow. "Infinite-state Games with Finitary Conditions". In: *Computer Science in Logic, CSL*. 2013. DOI: 10.4230/LIPIcs.CSL.2013.181. URL: https://doi.org/10.4230/LIPIcs.CSL.2013.181.

[42] Nathanaël Fijalkow, Sophie Pinchinat, and Olivier Serre. "Emptiness Of Alternating Tree Automata Using Games With Imperfect Information". In: *Foundations of Software Technology and Theoretical Computer Science, FSTTCS*. 2013. DOI: 10.4230/LIPIcs.FSTTCS.2013.299. URL: https://doi.org/10.4230/LIPIcs.FSTTCS.2013.299.

[43] Nathanaël Fijalkow, Hugo Gimbert, and Youssouf Oualhadj. "Deciding the Value 1 Problem for Probabilistic Leaktight Automata". In: *Logic in Computer Science, LICS*. 2012. DOI: 10.1109/LICS.2012.40. URL: https://doi.org/10.1109/LICS.2012.40.

[44] Nathanaël Fijalkow and Martin Zimmermann. "Cost-Parity and Cost-Streett Games". In: *Foundations of Software Technology and Theoretical Computer Science, FSTTCS*. 2012. DOI: 10.4230/LIPIcs.FSTTCS.2012.124. URL: https://doi.org/10.4230/LIPIcs.FSTTCS.2012.124.

[45] Krishnendu Chatterjee and Nathanaël Fijalkow. "Finitary Languages". In: *International Conference on Language and Automata Theory and Applications, LATA*. 2011. DOI: 10.1007/978-3-642-21254-3_16. URL: https://doi.org/10.1007/978-3-642-21254-3_16.

[46] Krishnendu Chatterjee and Nathanaël Fijalkow. "A Reduction from Parity Games to Simple Stochastic Games". In: *International Symposium on Games, Automata, Logics, and Formal Verification, GandALF*. 2011. DOI: 10.4204/EPTCS.54.6. URL: https://doi.org/10.4204/EPTCS.54.6.

Softwares

[47] Nathanaël Fijalkow, Hugo Gimbert, Edon Kelmendi, and Denis Kuperberg. *Stamina: Stabilisation Monoids in Automata Theory*. https://github.com/nathanael-fijalkow/stamina. 2017.

[48] Nathanaël Fijalkow and Denis Kuperberg. *ACME: Automata with Counters, Monoids and Equivalence*. https://github.com/nathanael-fijalkow/acme. 2014.

Publications in research bulletins

[49] Nathanaël Fijalkow. "Undecidability results for probabilistic automata". In: *SIGLOG News* 4.4 (2017). DOI: 10.1145/3157831.3157833. URL: http://doi.acm.org/10.1145/3157831.3157833.

[50] Nathanaël Fijalkow. "Profinite Techniques for Probabilistic Automata". In: *Bulletin of the EATCS* 122 (2017). URL: http://eatcs.org/beatcs/index.php/beatcs/article/view/497.

Talks

Invited Talks for International Events

The Theory of Universal Graphs for Infinite-duration Games **AutoMathA**
Jewels of Automata: from Mathematics to Applications *12/10/2021*

Parity Games: the Quasipolynomial Era **GanDALF**
International Symposium on Games, Automata, Logics, and Formal Verification *02/09/2019*

Probabilistic Automata **AutoMathA**
Jewels of Automata: from Mathematics to Applications *08/05/2015*

Invited Talks for International Workshops

The Theory of Universal Graphs: Past and Future
International Workshop on Coalgebraic Methods in Computer Science (CMCS) *25/04/2020*

Parity Games: the Quasipolynomial Era
Games for Logic and Programming Languages (GaLoP, affiliated to ETAPS) *06/04/2019*

Towards Lower Bounds for Parity Games
Complexity, Algorithms, Automata and Logic Meet (CAALM) *21/01/2019*

Revisiting Probabilistic Bisimulation
Logical Structures for Computation at the Simons Institute in Berkeley *12/12/2017*

An Invitation to Boundedness Games
Collective Adaptive Systems Synthesis (Cassting, affiliated to ETAPS) *02/04/2016*

Tutorials and Courses

Reinforcement Learning: from Theory to Practice
Bordeaux Summer School on Artificial Intelligence *24/06/2021*

Tutorial on Machine Learning Guided Program Synthesis
European Conference on Artificial Intelligence *29/08/2020*

Machine Learning Guided Program Synthesis
ForMaL DigiCosme Spring School on Formal Methods and Machine Learning *05/06/2019*

Seminar Talks and Specialised Workshops

This list includes one-hour research talks (excluding reading groups or internal talks).

MAC Workshop in LAAS (Toulouse, France), Göttingen-Kassel Theory Seminar (Kassel, Germany), CityAI seminar (London, UK), London School of Economics (London, UK), RWTH i5 and i7 (Aachen, Germany), 68NQRT (Rennes, France), LSV (Cachan, France), MoVe (Marseille, France), LaBRI (Bordeaux, France), DIMAP (Warwick, UK), Theory group (Cambridge, UK), Algorithms group (Liverpool, UK), PUMA (Munich, Germany), LACL (Créteil, France), Verification group (Oxford, UK), ONERA (Toulouse, France), ULB (Brussels, Belgium), Reactive Systems group (Saarebrücken, Germany), LIGM (Marne-la-Vallée, France), Automata group (Warsaw, Poland) and Automata group (Paris, France).

Research Activities

Research Grants

CNRS Momentum — **3 years, 180k€ + 2 years post-doc**
DeepSynth: Machine Learning Guided Program Synthesis — *Jan 2019 – Dec 2021*

PEPS JCJC — **1 year, 10k€**
Learning for Program Synthesis — *Jan 2018 – Dec 2018*

Participated in the following projects: ANR CODYS (2018 – 2022), ANR Delta (2016 – 2020), ERC AVS-ISS (2015 – 2020), EPSRC Counter Automata: Verification and Synthesis (2015 – 2017), ANR STOCH-MC (2014 – 2018), ERC GALE (2010 – 2015), ANR FREC (2010 – 2014), ERC SOSNA (2009 – 2014)

Steering Committees

Convenor for ALGA: Automata, Languages, Games, and Algebra
Part of GDR-IM, a French network gathering computer scientists and mathematicians *Since 2018*

Publicity Chair
Highlights of Logic, Games, and Automata Conference *Since 2017*

Program Committees of International Conferences

International Conference on Reachability Problems — **RP**
Brussels — *2019*

International Colloquium on Automata, Languages and Programming — **ICALP**
Patras — *2019*

Foundations of Software Systems and Computer Science — **FoSSaCS**
Prague — *2019*

Highlights of Logic, Games and Automata — **Highlights**
Warsaw — *2019*

Mathematical Foundations of Computer Science — **MFCS**
Liverpool — *2018*

Highlights of Logic, Games and Automata — **Highlights**
Berlin — *2018*

Program Committees of International Schools and Workshops

Synthesis — **SYNT**
Los Angeles (Online) — *2021*

Logical Aspects of Multi-Agent Systems and Strategic Reasoning — **LAMAS & SR**
London (Online) — *2021*

Formal Methods in Artificial Intelligence — **FMAI**
London (Online) — *2021*

Summer School on Modelling and Verification of Parallel Processes — **MOVEP**
Grenoble (Online) — *2020*

Strategic Reasoning — **SR**
Oxford — *2018*

Awards

Research Fellowship
Simons Institute for the Theory of Computing — *Jan 2021 – May 2021*

Research Fellowship
Alan Turing Institute of Data Science — *Jan 2017 – Dec 2021*

Research Fellowship
Simons Institute for the Theory of Computing — *Aug 2016 – Dec 2016*

PhD thesis distinguished
University of Warsaw — *Jan 2016*

Participant
Heidelberg Laureate Forum — *Sept 2015*

Co-Organisation of Scientific Events

Learning and Verification day
LaBRI, Bordeaux — *2020*

Learning and Verification day
UCL, London — *2019*

Logic and Learning FoPSS School
Oxford, affiliated to FLOC — *2018*

Summit on Machine Learning Meets Formal Methods
Oxford, affiliated to FLOC — *2018*

Logic and Learning Workshop
The Alan Turing Institute, London — *2018*

Annual meeting of the GT ALGA
IRIF, Paris — *2015*

Co-Organisation of Seminars and Working Groups

Online Worldwide Seminar on Logic and Semantics (OWLS)
Online — *Since 2020*

Theory of Machine Learning Reading Group
LaBRI, Bordeaux — *Since 2018*

Formal Methods Team Seminar
LaBRI, Bordeaux — *2018 – 2019*

Logic Seminar
The Alan Turing Institute, London — *2017 – 2018*

Fellows Logic Open
Simons Institute, Berkeley — *2016*

Verification Seminar
Oxford — *2015 – 2016*

Automata Seminar
LIAFA — *2014 – 2015*

Invitation to Specialised Workshops

Workshop on Tropical Geometry and the Geometry of Linear Programming
Hausdorff Institute, Bonn *2021*

Lorentz Center Workshop Rigorous Automated Planning
Lorentz Center, Leiden *2021*

Dagstuhl Seminar on Logic and Learning
Dagstuhl, Wadern *2019*

Probabilistic Programming
Bellairs Center, Holetown *2020*

Learning and Verification
Bellairs Center, Holetown *2019*

Logical Foundations for Data Science
Bellairs Center, Holetown *2018*

Supervision and Teaching

Post-doctorates

Guillaume Lagarde
Machine Learning Guided Program Synthesis (DeepSynth) *2019 – 2020*

PhD Students

Antonio Casares
Controller Synthesis *2020 – 2023*
co-supervised with Thomas Colcombet and Igor Walukiewicz

Ritam Raha
Verification of AI-Enabled Systems: Making Artificial Intelligence Safe *2019 – 2023*
co-supervised with Guillermo Pérez

Pierre Ohlmann
Parity Games *2018 – 2021*
co-supervised with Olivier Serre

Internships

Guillaume Pignon-Ywanne
Games Rankings *2020*
2 months, co-supervised with Guillaume Lagarde

Aliénor Goubault-Larrecq
Universal Graphs for Solving Games with Combination of Objectives *2020*
2 months, co-supervised with Jérôme Leroux

Nayan Akarsh
Search Algorithms for Program Synthesis *2020*
2 months

Mohit Gupta
Verification of Neural Networks *2019*
2 months

Ashwani Anand
Universal Graphs for Solving Games with Combination of Objectives *2019*
2 months, co-supervised with Jérôme Leroux

Pierre Ohlmann
The Hankel Matrix *2018*
5 months, co-supervised with Olivier Serre

Ritam Raha
Automata Learning *2018*
2 months, co-supervised with Filip Mazowiecki

Corentin Barloy
Subclasses of Linear Recurrent Sequences *2018*
2 months, co-supervised with Filip Mazowiecki and Nathan Lhote

Quentin de Goër de Herve
Finitely Ambiguous Weighted Automata *2018*
2 months, co-supervised with Filip Mazowiecki and Nathan Lhote

Magdalena Bojarska
Probabilistic Bisimulation *2015*
academic year, co-supervised with Mikołaj Bojańczyk

Laureline Pinault
Quantitative Alternating Automata *2014*
2 months, co-supervised with Olivier Serre

Teaching

Reinforcement Learning
Online Training Platform of The Alan Turing Institute, London *2021*

Theory and Practice of Reinforcement Learning
PhD Programme in LaBRI, Bordeaux *Since 2018*
12h

Introduction to Reinforcement Learning
IA Master, Bordeaux *Since 2018*
9h