

Edon Kelmendi

Birth place: Prishtinë, Kosovë

Birth date: 20 May 1989

Nationality: Kosovar

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Interests

My interests include Logic, Automata, Games, and Dynamical Systems.

Appointments Held

- April 2021 – ...  **Max Planck Institute for Software Systems**
Post-Doc (Researcher).
Advised by: Joël Ouaknine and James Worrell
- Dec 2019 – April 2021  **University of Oxford**
Post-Doc (Research Associate) in the Verification Team.
Advised by: Joël Ouaknine and James Worrell
- Feb 2018 – Dec 2019  **University of Warsaw**
Post-Doc (Adiunkt Naukowy) in the Automata Team.
Advised by: Mikołaj Bojańczyk
- Jan 2017 – Jan 2018  **Technical University of Munich**
Post-doc in the Chair for Foundations of Software Reliability and Theoretical Computer Science
Advised by: Anca Muscholl and Jan Křetínský

Education

- 2013 – 2016  **Doctorate, LaBRI, Université de Bordeaux**
Thesis title: *Optimal Control Under Partial Observation*
Advisors: Hugo Gimbert and François Dufour
- 2011 – 2013  **Master, Université de Bordeaux** (Formal Methods and Software Verification)
Thesis title: *Value 1 Problem for Probabilistic Automata*.
Advisor: Hugo Gimbert
Mention: Très Bien
- 2007 – 2010  **BEng, Universiteti i Prishtinës**
Faculty of Electrical and Computer Engineering


Publications

arXiv links are clickable



Preprints

- 1 Gimbert, Hugo and Edon Kelmendi. *Two-Player Perfect-Information Shift-Invariant Submixing Stochastic Games Are Half-Positional*. 2014. arXiv: 1401.6575 [cs.GT].

Conference Proceedings

- 1 Kelmendi, Edon. “Computing the Density of the Positivity Set for Linear Recurrence Sequences”. In: *Thirty-Seventh Annual ACM/IEEE Symposium on Logic in Computer Science (LICS)*. 2022. arXiv: 2109.14432.
- 2 Almagor, Shaull, Toghrul Karimov, Edon Kelmendi, Joël Ouaknine, and James Worrell. “Deciding ω -Regular Properties on Linear Recurrence Sequences”. In: *In 48th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2021), January 17–22, 2021*. 2021. arXiv: 2010.14432.
- 3 Almagor, Shaull, Edon Kelmendi, Joël Ouaknine, and James Worrell. “Invariants for Continuous Linear Dynamical Systems”. In: *47th International Colloquium on Automata, Languages, and Programming, ICALP 2020, July 8–11, 2020, Saarbrücken, Germany (Virtual Conference)*. 2020, 107:1–107:15. arXiv: 2004.11661.
- 4 Bojańczyk, Mikołaj, Edon Kelmendi, Rafał Stefański, and Georg Zetsche. “Extensions of ω -Regular Languages”. In: *LICS '20: 35th Annual ACM/IEEE Symposium on Logic in Computer Science, Saarbrücken, Germany, July 8–11, 2020*. 2020, pp. 266–272. arXiv: 2002.09393.
- 5 Bojańczyk, Mikołaj, Edon Kelmendi, and Michał Skrzypczak. “MSO+ ∇ is undecidable”. In: *34th Annual ACM/IEEE Symposium on Logic in Computer Science, LICS 2019, Vancouver, BC, Canada, June 24–27, 2019*. 2019, pp. 1–13. arXiv: 1901.06900.
- 6 Kelmendi, Edon, Julia Krämer, Jan Křetínský, and Maximilian Weininger. “Value Iteration for Simple Stochastic Games: Stopping Criterion and Learning Algorithm”. In: *Computer Aided Verification - 30th International Conference, CAV 2018, Held as Part of the Federated Logic Conference, FloC 2018, Oxford, UK, July 14–17, 2018, Proceedings, Part I*. 2018, pp. 623–642. arXiv: 1804.04901.
- 7 Bojańczyk, Mikołaj, Hugo Gimbert, and Edon Kelmendi. “Emptiness of Zero Automata Is Decidable”. In: *44th International Colloquium on Automata, Languages, and Programming, ICALP 2017, July 10–14, 2017, Warsaw, Poland*. 2017, 106:1–106:13. arXiv: 1702.06858.
- 8 Fijalkow, Nathanaël, Hugo Gimbert, Edon Kelmendi, and Denis Kuperberg. “Stamina: Stabilisation Monoids in Automata Theory”. In: *Implementation and Application of Automata - 22nd International Conference, CIAA 2017, Marne-la-Vallée, France, June 27–30, 2017, Proceedings*. 2017, pp. 101–112.  URL: <https://edon.github.io/files/stamina.pdf>.
- 9 Kelmendi, Edon and Hugo Gimbert. “Deciding Maxmin Reachability in Half-Blind Stochastic Games”. In: *Algorithmic Game Theory - 9th International Symposium, SAGT 2016, Liverpool, UK, September 19–21, 2016. Proceedings*. 2016, pp. 52–63. arXiv: 1605.07753.

Journal Articles





- 1 Eisentraut, Julia, Edon Kelmendi, Jan Křetínský, and Maximilian Weininger. “Value iteration for simple stochastic games: Stopping criterion and learning algorithm”. In: *Information and Computation* (2022), p. 104886. ISSN: 0890-5401.  DOI: <https://doi.org/10.1016/j.ic.2022.104886>.  URL: <https://www.sciencedirect.com/science/article/pii/S0890540122000281>.
- 2 Fijalkow, Nathanaël, Hugo Gimbert, Edon Kelmendi, and Youssouf Oualhadj. “Deciding the value 1 problem for probabilistic leaktight automata”. In: *Logical Methods in Computer Science* 11.2 (2015). arXiv: 1504.04136.

Teaching


Michaelmas 2020

■ **Probabilistic Model Checking** (University of Oxford)
Tutorials (partially online) to master students.




Teaching (continued)

- Winter 2016/2017  **Logique et Preuve** (Université de Bordeaux)
Tutorials and lectures on an introduction to formal logics and coq for third year students.
-  **Coloration Informatique** (Université de Bordeaux)
Tutorials on writing a 2D game in python for first year students.
- Winter 2015/2016  **Informatique Théorique 1** (Université de Bordeaux)
Tutorials and lectures on basic mathematical tools that are useful in computer science for second year students.
-  **Algorithmes et Programmes** (Université de Bordeaux)
Tutorials on implementing algorithms in C for second year students.

Community service

- Reviewed papers for:  LICS, ICALP, STACS, MFCS, CSL, FSCD, CONCUR,
Acta Informatica, Transactions on Computational Logic.

Languages

- Albanian**  Native
- English**  Fluent
- French**  Advanced