Edon Kelmendi

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Birth place: Prishtinë, Kosovë
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10 Godward Square
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Professional Appointments

2023 – now **Lecturer**
School of Electronic Engineering and Computer Science
Queen Mary, University of London

2021 – 2023 **Research Associate**
Max Planck Institute for Software Systems
Advised by: Joël Ouaknine and James Worrell

2019 – 2021 **Research Associate**
University of Oxford
Advised by: Joël Ouaknine and James Worrell

2018 – 2019 **Research Associate**
University of Warsaw
Advised by: Mikołaj Bojańczyk

2017 – 2018 **Research Associate**
Technical University of Munich
Advised by: Anca Muscholl and Jan Křetínský

Education

2013 – 2016 **Doctorate**, LaBRI, Université de Bordeaux, France
Thesis title: Two-Player Stochastic Games with Perfect and Zero Information
Advisors: Hugo Gimbert and François Dufour

2011 – 2013 **Masters**, Université de Bordeaux, France
Thesis title: Value 1 Problem for Probabilistic Automata
Advisor: Hugo Gimbert
Mention: Très bien

2007 – 2010 **BEng**, Informatics, Universiteti i Prishtinës, Republic of Kosovo

Interests

I am broadly interested in theoretical computer science, with a focus on algorithmic verification, logics, automata, games, and dynamical systems.

Publications

Journal Articles

2023 Hugo Gimbert, Edon Kelmendi. Submixing and Shift-Invariant Stochastic Games. *International Journal of Game Theory (***IJGT***) 52(4): 1179-1214*. doi:10.1007/S00182-023-00860-5.

2023 Edon Kelmendi. Computing the Density of the Positivity Set for Linear Recurrence Sequences. *Logical Methods in Computer Science (***LMCS***), November 28, 2023, Volume 19, Issue 4* doi:10.46298/lmcs-19(4:16)2023

2022 Julia Eisentraut, Edon Kelmendi, Jan Křetínský, Maximilian Weininger. Value Iteration for Simple Stochastic Games: Stopping Criterion and Learning. *Information and Computation, Volume 285, Part B, 104886 (***Inf. Comput. 285***)* doi:10.1016/j.ic.2022.104886

Toghrul Karimov, Edon Kelmendi, Joël Ouaknine, James Worrell. What's Decidable About Discrete Linear Dynamical Systems? *In: Raskin, JF., Chatterjee, K., Doyen, L., Majumdar, R. (eds)* **Principles of Systems Design.** *Lecture Notes in Computer Science, vol 13660. Springer, Cham.* doi:10.1007/978-3-031-22337-2_2

2015 Nathanaël Fijalkow, Hugo Gimbert, Edon Kelmendi, Youssouf Oualhadj. Deciding the Value 1 Problem for Probabilistic Leaktight Automata. *Logical Methods in Computer Science (***LMCS***) Volume 11, Issue 2* doi:10.2168/LMCS-11(2:12)2015

Conference Proceedings

2025 Toghrul Karimov, Edon Kelmendi, Joël Ouaknine, James Worrell. Multiple Reachability in Linear Dynamical Systems *Proceedings of the 40th Annual ACM/IEEE Symposium on Logic in Computer Science (***LICS***).*

2023 Faraz Ghahremani, Edon Kelmendi, Joël Ouaknine. Reachability in Injective Piecewise Affine Maps *Proceedings of the 38th Annual ACM/IEEE Symposium on Logic in Computer Science (***LICS***)* doi:10.1109/LICS56636.2023.10175723.

Toghrul Karimov, Edon Kelmendi, Joris Nieuwveld, Joël Ouaknine, James Worrell. The Power of Positivity. *Proceedings of the 38th Annual ACM/IEEE Symposium on Logic in Computer Science (***LICS***)* doi:10.1109/LICS56636.2023.10175758

2022 Edon Kelmendi. Computing the Density of the Positivity Set for Linear Recurrence Sequences. *Proceedings of the 37th Annual ACM/IEEE Symposium on Logic in Computer Science (***LICS***)* doi:10.1145/3531130.3532399. Distinguished Paper Award.

2021 Shaull Almagor, Toghrul Karimov, Edon Kelmendi, Joël Ouaknine, James Worrell. Deciding ω-Regular Properties on Linear Recurrence Sequeneces. *Proceedings of the ACM on Programming Languages (***POPL***), Volume 5, Article No.: 48* doi:10.1145/3434329

2020 Shaull Almagor, Edon Kelmendi, Joël Ouaknine, James Worrell. Invariants for Continuous Linear Dynamical Systems. *Proceedings of the 47th International Colloquium on Automata, Languages, and Programming (***ICALP***), 107:1–107:15* doi:10.4230/LIPIcs.ICALP.2020.107

Mikołaj Bojańczyk, Edon Kelmendi, Rafał Stefański, Georg Zetzsche. Extensions of ω-Regular Languages. *Proceedings of the 35th Annual ACM/IEEE Symposium on Logic in Computer Science (***LICS***), Pages 266-272* doi:10.1145/3373718.3394779

2019 Mikołaj Bojańczyk, Edon Kelmendi, Michał Skrzypczak. MSO+∇ is undecidable. *Proceedings of the 34th Annual ACM/IEEE Symposium on Logic in Computer Science (***LICS***), Pages 1-13* doi:10.1109/LICS.2019.8785892

2018 Edon Kelmendi, Julia Krämer, Jan Křetínský, Maximilian Weininger. Value Iteration for Simple Stochastic Games: Stopping Criterion and Learning Algorithm. *In Computer Aided Verification (***CAV***). Lecture Notes in Computer Science, vol 10981. pp 623-642. Springer, Cham.* doi:10.1007/978-3-319-96145-3_36

2017 Mikołaj Bojańczyk, Hugo Gimbert, Edon Kelmendi. Emptiness of Zero Automata is Decidable. *In Proceedings of the 44th International Colloquium on Automata, Languages, and Programming (***ICALP***), 106:1–106:13* doi:10.4230/LIPIcs.ICALP.2017.106

Nathanaël Fijalkow, Hugo Gimbert, Edon Kelmendi, Denis Kuperberg. Stamina: Stabilisation Monoids in Automata Theory. *In Implementation and Application of Automata (***CIAA***). Lecture Notes in Computer Science, vol 10329. Springer, Cham.* doi:10.1007/978-3-319-60134-2_9

2016 Edon Kelmendi, Hugo Gimbert. Deciding Maxmin Reachability in Half-Blind Stochastic Games. *In Symposium of Algorithmic Game Theory (***SAGT***). Lecture Notes in Computer Science, vol 9928. Springer, Berlin.* doi:10.1007/978-3-662-53354-3_5

Program Committees

2025 Mathematical Foundations of Computer Science

2024 Foundations of Software Technology and Theoretical Computer Science

Teaching

2023 – now	*Algorithms and Data Structures* Queen Mary University of London.	UG
2023 – now	*Object-Oriented Programming*, Queen Mary University of London.	UG
2020 – 2021	*Probabilistic Model Checking*, Tutorials. University of Oxford	PG
2016 – 2017	*Logique et Preuve*, Tutorials and some lectures. Université de Bordeaux.	UG
	Coloration Informatique, Tutorials. Université de Bordeaux.	UG
2015 – 2016	*Informatique Théorique 1*, Tutorials and some lectures. Université de Bordeaux.	UG
	Algorithmes et Programmes, Tutorials. Université de Bordeaux.	UG

Student supervision

Intern

2022 – 2022 Faraz Ghahremani
Summer internship at Max Planck Institute for Software Systems

Languages

Albanian	Native
English	Fluent
French	Advanced