

Guillermo A. Pérez — CV

Middelheimlaan 1 – 2020 Antwerpen – Belgium

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Education

Université libre de Bruxelles (ULB) <i>Ph.D. Computer Science</i>	Brussels, Belgium 2012–2016
National Tsing-Hua University (NTHU) <i>M.Sc. Information Systems and Applications</i>	Hsinchu, Taiwan 2010–2012
Universidad Tecnológica Centroamericana (UNITEC) <i>B.Sc. Computer Science, Summa cum Laude</i>	Tegucigalpa, Honduras 2005–2009

Awards and Scholarships

- Outstanding Paper Award – AAAI Conf. on AI (AAAI) 2025
- Best Paper Award – Int'l Conf. on Formal Modeling & Analysis of Timed Sys. (FORMATS) 2023
- Outstanding Teaching Award within the Faculty of Science, University of Antwerp 2021
- Fondation Wiener-Anspach Post-Doctoral subsidy 2017
- Kurt Gödel medal for my synthesis tool AbsSynthe at FLoC Olympic Games 2014
- Fonds de la Recherche Scientifique (F.R.S.-FNRS) Aspirant fellowship 2014–2018
- International Cooperation and Development Fund (ICDF) scholarship 2010–2012

In the media

My research, mostly in the context of formal methods for trustworthy AI, has been featured in the media:

- Our “outstanding” AAAI 2025 paper on a decidable class of partially observable Markov decision processes was the topic of two blog posts in Le Monde’s binaire and it was covered by AIhub.org
- Results from Dennis Groß’ 2020 collaboration with TNO on attacking models for image classification were featured in an article of NewScientist

Employment

University of Antwerp <i>Tenured Associate Professor</i>	Antwerp, Belgium October 2023–present
University of Antwerp <i>Tenure-Track Assistant Professor</i>	Antwerp, Belgium October 2018–2023
Université libre de Bruxelles <i>Research Assistant (supported by F.R.S.-FNRS)</i>	Brussels, Belgium January 2017–October 2018
University of Oxford <i>Visiting Researcher</i>	Oxford, United Kingdom 2017
Informática Atlántida <i>Software Engineer</i>	Tegucigalpa, Honduras 2008–2010

Membership in Scientific Societies

Member of ELLIS: European Laboratory for Learning and Intelligent Systems <i>Working with colleagues in Europe on formal methods for and with artificial intelligence</i>	Europe 2023–present
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Member of Flanders Make core lab at the University of Antwerp
The Flemish strategic research center for the manufacturing industry

Antwerp, Belgium
2020–present

Languages

English: Fluent
Dutch: Fluent
Spanish: Native

French: Fluent
Mandarin Chinese: Basic
German: Basic

Supervision

Post-doctoral researchers

- Dr. Marnix Suilen 2024–present

PhD students

- Kevin Dubrulle (with Prof. Bruyère at UMONS) 2025–present
- Vanessa Flügel (with Prof. Blondin at Sherbrooke) 2025–present
- Kasper Engelen 2022–present

Alumni

- Dr. Ramesh Krishnamurthy (with Prof. Denil at UAntwerp) 2021–2025
- Dr. Shrisha Rao 2021–2025
- Dr. Gaëtan Staquet (with Prof. Bruyère at UMONS) 2020–2024
- Dr. Tim Leys 2020–2024
- Dr. Florent Delgrange (with Prof. Nowé at VUB) 2020–2024
- Dr. Dennis Gross (with Prof. Jansen at Radboud) 2019–2024
- Dr. Ritam Raha (with Dr. Fijalkow at LaBRI, Bordeaux) 2019–2023
- Dr. Raphaël Berthon (with Prof. Raskin at ULB) 2018–2022

Teaching and Service

Bachelor's courses taught at UAntwerp

- Theoretical Computer Science Seminar (2nd Sem.) 2024–present
- Compilers (1st Sem.) 2019–present

Master's courses taught at UAntwerp

- Mathematical Foundations of Reinforcement Learning (1st Sem.) 2021–present
- Specification and Verification (1st Sem.) 2019–present
- Programming Paradigms (2nd Sem.) 2019–present
- Software Testing and Beyond Summer School 2025–present

Service at UAntwerp

- Vice-chair of the Department of Computer Science 2025–present
- CS-Department Planning Manager for Students and Assistants Supporting Courses 2025–present
- Member of the Pre-Screening Commission for Int'l Masters' Programs in CS 2018–present

Service to the Community

Selected invited talks

Keynote: Proof Over Promises! Making RL Trustworthy France
Annual Meeting of the Verification Working Group (GT-Vérif) 2025

Decidable Problems for Partially Observable MDPs Croatia
8th International Symposium on AI Verification (SAIV) 2025

The Reactive Synthesis Competition (SYNTCOMP): 2018-2021 <i>Automated Synthesis: Functional, Reactive and Beyond - Dagstuhl Seminar (24171)</i>	Germany 2024
Parameter Synthesis for One-Counter Automata <i>10th International Workshop on Weighted Automata: Theory and Applications</i>	France 2021
Regret Minimization in Discounted-Sum Games <i>International Symposium on Games, Automata, Logics, and Formal Verification (GandALF)</i>	Belgium 2020
Revisiting Synthesis for One-Counter Automata <i>22nd International Workshop on Verification of Infinite-State Systems</i>	Germany 2020
Optimizing Expectation with Guarantees in POMDPs <i>Workshop: Theory and Algorithms in Graph and Stochastic Games</i>	Belgium 2019
Graph-Based Reductions for Model Checking and Learning MDPs <i>Machine Learning and Model Checking Join Forces - Dagstuhl Seminar (18121)</i>	Germany 2018
Competition organizer	
Annual Reactive Synthesis Competition, with S. Jacobs, P. Schlehuber-Caissier <i>SYNTCOMP is affiliated with the conference CAV, https://www.syntcomp.org/</i>	2019–present
Steering committee member	
○ The International Conference on Quantitative Evaluation of SysTems (QEST)	2023–2027
Program chair	
○ Organizer of the “The Futures of Reactive Synthesis” Dagstuhl seminar (23391), with N. Fijalkow, B. Finkbeiner, and E. Polgreen	2023
○ General & program chair of the Int’l Conf. on Concurrency (CONCUR) 2023, with J.-F. Raskin	2023
○ Workshop chair of the Federated Logic Conference (FLoC) 2022, joint with S. Almagor	2022
○ Program chair of the Workshop on Synthesis (SYNT 2021), joint with E. Polgreen	2021
○ Organizer of SYNTCOMP Camp, a satellite tutorial of ETAPS 2019	2019
Program committee member	
○ 52nd EATCS Int’l Colloquium on Automata, Languages, and Programming (ICALP 2026)	2026
○ 32st Int’l Conf. on Tools & Algorithms for the Construction & Analysis of Systems (TACAS 2026)	2026
○ 45th IARCS Conf. on Foundations of Software Tech. and Theoretical Comp. Sci. (FSTTCS 2025)	2025
○ 11th Symposium on Dependable Software Eng. Theories, Tools and Applications (SETTA 2025)	2025
○ 50th International Symposium on Mathematical Foundations of Computer Science (MFCS 2025)	2025
○ 23rd Int’l Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2024)	2024
○ 32nd EACSL Annual Conference on Computer Science Logic (CSL 2024)	2024
○ 34rd Benelux Conf. on AI and the 31th Belgian Dutch Conf. on ML (BNAIC/BeNeLearn 2022)	2022
○ 18th Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2020)	2020
○ Int’l Conference on Concurrency Theory (CONCUR)	2024, 2026
○ Int’l Symposium on AI Verification (SAIV)	2024, 2025
○ Int’l Conference on Applications and Theory of Petri Nets and Concurrency (PN)	2024, 2025
○ AAAI Conference on Artificial Intelligence (AAAI)	2021, 2022, 2023, 2026
○ Int’l Symp. on Games, Automata, Logics, and Formal Verif. (GandALF)	2021, 2022, 2023, 2024
○ Conference on Reachability Problems (RP)	2019, 2022, 2025
○ Workshop on Synthesis (SYNT)	2019, 2022, 2024, 2025
Other service	
○ Artifact Evaluation Chair for FoSSaCS 2026	2026
○ Part of the iCORE Ranking Application for QEST-FORMATS	2025
○ Scientific Advisor of ReqCon.ai in ELSA-ai.eu Funded Project	2025

Research Grants

PI of Synthesis of reactive systems from formal specifications and examples (SynthEx)	€194K
<i>Funded by the Research Foundation - Flanders (FWO) at UAntwerp</i>	2024–2027
co-PI of Infectious disease economics and AI with guarantees (DESCARTES)	€800K
<i>Funded by the Inter-university Research Fund (iBOF), Flanders, Belgium</i>	2021–2024
co-PI of Deterministic and inexpensive realizations of advanced control (DIRAC-SBO)	€468K
<i>Funded by Flanders Make, the strategic research center for the Flemish manufacturing industry</i>	2020–2023
PI of Safe Artificial Intelligence and Learning for Verification (SAILor)	€254K
<i>Funded by the Research Foundation - Flanders (FWO) at UAntwerp</i>	2020–2023
PI of Counter-Automata Algorithms for Software Verification Tools (CAST)	€205K
<i>Funded by the University Research Fund (BOF) at UAntwerp</i>	2019–2023