

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 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

Employment

University of Antwerp <i>Tenure-Track Assistant Professor</i>	Antwerp, Belgium October 2018–present
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 the NEXOR consortium <i>Working on the next generation of cyber-physical systems at the University of Antwerp</i>	Antwerp, Belgium 2021–present
Member of Flanders Make core lab at the University of Antwerp <i>The Flemish strategic research center for the manufacturing industry</i>	Antwerp, Belgium 2020–present

Languages

English: Fluent	French: Fluent
Dutch: Fluent	Mandarin Chinese: Intermediate
Spanish: Native	German: Basic

Student Supervision

PhD students

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

MSc students

◦ Pieter Hendriks (thesis)	2021–present
◦ Kasper Engelen (internship & thesis)	2021–present
◦ Igor Schittekat (internship & thesis)	2021–present
◦ Lars van Roy (internship & thesis)	2020–2021
◦ Laurens van Damme (internship)	2021
◦ Gaëtan Staquet (internship & thesis, together with Prof. Bruyère at UMons)	2019–2020

Teaching

Bachelor's courses

◦ Compilers (Fall)	2019–present
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Master's courses

◦ Mathematical Foundations of Reinforcement Learning (Fall)	2021–present
◦ Specification and Verification (Fall)	2019–present
◦ Programming Paradigms (Spring)	2019–present

Service

Invited speaker

Results of the 2021 Synthesis Competition SYNTCOMP	USA
<i>SYNT workshop at CAV 2021</i>	2021
Parameter Synthesis for One-Counter Automata	France
<i>10th International Workshop on Weighted Automata: Theory and Applications</i>	2021
Regret Minimization in Discounted-Sum Games	Belgium
<i>International Symposium on Games, Automata, Logics, and Formal Verification (GandALF)</i>	2020
Results of the 2020 Synthesis Competition SYNTCOMP	USA
<i>SYNT workshop at CAV 2020</i>	2020
Revisiting Synthesis for One-Counter Automata	Germany
<i>22nd International Workshop on Verification of Infinite-State Systems</i>	2020
Optimizing Expectation with Guarantees in POMDPs	Belgium
<i>Workshop: Theory and Algorithms in Graph and Stochastic Games</i>	2019
Machine Learning and Model Checking Join Forces Dagstuhl Seminar	Germany
<i>Graph-Based Reductions for Model Checking and Learning MDPs</i>	2018

Event organization

Annual Reactive Synthesis Competition (SYNTCOMP) joint with S. Jacobs	
<i>Affiliated with the SYNT workshop series and the conference CAV, syntcomp.org</i>	2019–present

SYNTCOMP Camp: Tutorial on reactive synthesis and the competition <i>A satellite tutorial of ETAPS 2019</i>	2019
iVerif: Workshop on artificial intelligence and Verification, joint with S. Guha <i>Affiliated with the FSTTCS 2021 conference</i>	2021
Program chair	
◦ Workshop chair of the Federated Logic Conference (FLoC) 2022, joint with S. Almagor	2022
◦ Program chair of the 10th Workshop on Synthesis (SYNT 2021), joint with E. Polgreen	2021
Program committee member	
◦ 36th AAAI Conference on Artificial Intelligence (AAAI 2022)	2022
◦ 35th AAAI Conference on Artificial Intelligence (AAAI 2021)	2021
◦ 12th Symposium on Games, Automata, Logics, and Formal Verification (GandALF 2021)	2021
◦ 18th Conference on Formal Modeling and Analysis of Timed Systems (FORMATS 2020)	2020
◦ 13th Conference on Reachability Problems (RP 2019)	2019
◦ 8th Workshop on Synthesis (SYNT 2019)	2019

Research Grants

co-PI of infectious DisEaSe eConomics and Ai with guaRanTEeS (DESCARTES) <i>Funded by the Inter-university Research Fund (iBOF), Flanders, Belgium</i>	€800K 2021–2024
co-PI of Deterministic and inexpensive realizations of advanced control (DIRAC-SBO) <i>Funded by Flanders Make, the strategic research center for the Flemish manufacturing industry</i>	€468K 2020–2023
PI of Safe Artificial Intelligence and Learning for Verification (SAILor) <i>Funded by the Research Foundation - Flanders (FWO) at UAntwerp</i>	€254K 2020–2023
PI of Counter-Automata Algorithms for Software Verification Tools (CAST) <i>Funded by the University Research Fund (BOF) at UAntwerp</i>	€205K 2019–2023
External co-PI of EXplainable Data Science using Formal Verification (EXoDuS) <i>VWData kickstarter project with Dr. Jansen jointly funded by NWO, TNO, Radboud University</i>	2019–2023

Software Tools

- AbsSynthe: A controller-synthesis tool from safety specifications
- GPOMCP: A partial-observation Monte Carlo Planning algorithm for the guaranteed payoff optimization problem
- Acacia-bonsai: A minimal implementation of universal coBüchi synthesis algorithms for temporal synthesis