

Maxime Cordy, Ph.D.

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Professional Experience

01/2019 – Present	Research Scientist. SnT Center, University of Luxembourg.
07/2016 – 12/2018	Postdoctoral Researcher and Lecturer. U. of Namur, Belgium.
07/2015 – 12/2018	Co-founder and R&D manager. SKALUP, Belgium.
09/2014 – 09/2015	Postdoctoral Researcher. U. of Namur, Belgium.
10/2011 – 09/2014	FNRS Research Fellow / PhD Student. U. of Namur, Belgium.
08/2011 – 09/2011	Researcher. U. of Namur, Belgium.

Education

2011 – 2014	Ph.D. in Computer Science , U. of Namur, Belgium. Thesis title: <i>Model Checking for the Masses</i> .
2009 – 2011	M.Sc. Computer Science (summa cum laude) , U. of Namur, Belgium. Thesis title: <i>Development of a Quasi-Birth-and-Death Sensitivity Analysis Tool</i> .
2006 – 2009	B.Sc. Computer Science (magna cum laude) , U. of Namur, Belgium.

PhD Supervision

Start 12/20	Valeria Trombetta, <i>Behaviour-Induced Configuration of High Variability-Intensive Systems</i> , SnT, University of Luxembourg. (supervisor)
In progress	Salijona Dyrnishi, <i>Search-Based Adversarial Testing under Domain-Specific Constraints</i> , SnT, University of Luxembourg. (supervisor)
In progress	Sami Bosch, <i>Robust Machine Learning in Industrial Systems</i> , SnT, University of Luxembourg. (supervisor)
In progress	Qiang Hu, <i>Test Adequacy in Deep Learning Systems</i> , SnT, University of Luxembourg. (co-supervisor)
In progress	Martin Gubri, <i>Testing Machine-Learning Models and Self-Learning Systems</i> , SnT, University of Luxembourg. (co-supervisor)
In progress	Salah Ghamizi, <i>Robust Machine Learning in FinTech Applications</i> , SnT, University of Luxembourg. (co-supervisor)
In progress	Anshuman Bhadauria, <i>Behaviour Representation for Recommendation Systems</i> , SnT, University of Luxembourg. (scientific advisor)
In progress	Nikolaos Antoniadis, <i>Responding to Critical Incidents on Smart Grids in Real Time</i> , SnT, University of Luxembourg. (scientific advisor)
2019	Ludovic Mouline, <i>Improving Knowledge Representation for Adaptive Distributed Systems</i> , SnT, University of Luxembourg. (as scientific advisor)
2015	Raphael Michel, <i>Automated Reasoning on Extended Feature Models</i> , University of Namur, Belgium. (as co-supervisor)

Research Projects

BEEHIVE: Behaviour-Induced Configuration of High Variability-Intensive Systems (2020 – 2024): principal investigator

Funding instrument: FNR CORE Junior (656.000€).

SEADOCO: Search-Based Adversarial Testing under Domain-Specific Constraints (2020 – 2024): principal investigator

Funding instrument: AFR Grant of Salijona Dyrnishi (168.508€).

PILOT: Pandemic Simulation and Forecasting for an Empowered Policy-Making: Convergence of Machine Learning and Epidemiological Models (2020): co-author and co-investigator (w/ Prof. Y. Le Traon)

Funding instrument: FNR Covid Fast-Track (48.456€).

STELLAR: Testing Self-Learning Systems (2019 – 2023): co-author and scientific advisor

Funding instrument: FNR CORE (746.000€).

Partners: U. of Luxembourg / SnT, Berkeley, U. Namur

Robust Machine-Learning-Based Systems (2019 – 2022): technical investigator

Funding instrument: Partnership with BGL/BNP Paribas Luxembourg (130.000 EUR).

Partners: U. of Luxembourg / SnT, BGL/BNP-Paribas

Reactive Security for Smart Grids (2017 – 2021): scientific advisor

Funding instrument: Partnership with Creos Luxembourg (345.000 EUR).

Partners: U. of Luxembourg / SnT, Creos

Research Community Services

Organization

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| 2021 | Co-chair of the New Ideas track of the 16th International Conference on Software Maintenance and Evolution (ICSME '21), Luxembourg, Luxembourg. |
| 2020 | Co-organizer of the 19th Belgium-Netherlands Software Evolution Workshop (BENEVOL '20), Luxembourg, Luxembourg, 2020.
PC Chair of the 14th Working Conference on Variability Modelling of Software-Intensive Systems (VaMoS '20), Magdeburg, Germany, 2020. |
| 2019 | Co-chair of the 3rd Workshop on Machine Learning Techniques for Software Quality Evaluation, Tallinn, Estonia, 2019. |
| 2018 | Co-chair of the 1st Int'l Workshop on Machine Learning and Software Engineering in Symbiosis, Montpellier, France, 2018. |

Program Committee Member

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| 2020 | ISSTA (artifact, rank A), SAC, SPLC, AST, ENIAC |
| 2019 | CAISE (rank A), SAC, SPLC, VaMoS, InterAVT, CtrlAltQ. |
| 2018 | CAISE (rank A), SAC. |
| 2015 | FMSPLE, SPLaT. |
| 2014 | SPLaT. |

Distinguished Reviewer Board member for the ACM Transactions on Software Engineering and Methodology journal

Reviewer for journals, including: TSE, TOSEM, EMSE, SoSyM, STVR, Elsevier Sci. Comp. Prog., Elsevier JSS.

Invited Speaker

- 2019 Keynote speaker at the 26th International SPIN Symposium on Model Checking of Software (SPIN 2019, Beijing, China).
- 2018 Invited speaker at the EBSYS European Project workshop (Louvain-La-Neuve, Belgium).

Awards / Certification

- 2020 Best Paper Award at KDD '20 Health Day (Rank A^*), virtual event.
- 2019 Autorisation à Diriger les Recherches (*Right to Supervise Research*), U. of Luxembourg.
- 2019 Best Artifact Award at ISSTA '19 (Rank A), Beijing, China.
- 2012 Best Paper Award at RE '12 (Rank A), Chicago, USA.
- 2012 Best Poster Award at the 2nd PRECISE Research Day, Namur, Belgium.
- 2011 FNRS Research Fellow grant (personal grant for PhD studies).

Research Output (Software)

- 2019 – Present FLAKIME: a platform to assess the impact of flakiness on software testing in laboratory-controlled conditions (in Java). Main contributor.
- 2019 – Present IDS-GA: a framework to test and improve machine-learning-based anomaly detection systems (in Java). Main contributor. Best artifact award at ISSTA'19.
- 2010 – Present PROVELINES, a product line of model checkers for software product lines (in C). Main contributor.
- 2017 – Present TUNA, a static analysis tool for source code based on natural language processing (in Java). Co-main contributor.
- 2013 – 2016 CONFETOOLS, a rule-based AI engine for developing configuration software (in Java). Main contributor. Transferred to a company.

Teaching

- 2017 – 2018 **Substitute Lecturer**, University of Namur, Belgium.
 - Object-Oriented Design and Development (Bachelor)
 - Object-Oriented Design and Development (Bachelor, night school)
 - Requirements Engineering (Master).
- 2015 – 2017 **Professional Trainer** (freelance) in software modelling, design and programming for medium to large companies.
- 2015 – 2017 **Invited Lecturer**, University of Namur, Belgium.
 - Requirements Engineering (Master)
- 2011 – 2013 **Teaching Assistant**, University of Namur, Belgium.
 - Stochastic Processes (Bachelor)
 - System Modelling and Simulation (Master, night school)