

Stefano Demarchi

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EMPLOYMENT AND EXPERIENCE **Università degli Studi di Genova**
Adjunct Professor 2024
B. Sc. course in “Principles and practice of Computer Science”
An introduction to Computer Science and Python programming
for first year students in Electrical Engineering.

Post-Doc Researcher 2022 - Present
PhD student 2019 - 2022
Study and development of AI techniques for the formal verification
of Neural Networks, part of the **NeVerTools** development team.
Teaching support activities for an introductory course to Computer
Science and Python programming.

Università degli Studi di Sassari | Athena Sardegna
Research Engineer 2018 - 2019
Development of a backend framework for a commercial platform
(**PILOW**), research and design of optimization algorithms
for logistics.

AI-Lift
R&D collaborator 2017 - 2019
Part of the development team of **LiftCreate**, a tool for the design
of elevator systems enabled by AI techniques.

EDUCATION **Università degli Studi di Genova, Genova, IT**
Ph.D in Computer Science, May 2023
*Experimenting with Constraint Programming Techniques in AI:
Automated System Design and Verification of Neural Networks*
M.Sc. in Computer Engineering, October 2018
*Product Configuration for Complex Systems: a case study in
Computer-automated Design of Elevators*
108/110

Université de Technologie de Compiègne, Compiègne, FR
European Master in Complex Systems in Interaction, September 2018
Double-degree program in collaboration with Università degli Studi di Genova
A, **mention**

PROGRAMMING AND SOFTWARE **Programming:** Python, Java, C
Frameworks: PyQt5/6, SPRING Java, Vaadin
Markup: L^AT_EX, HTML5, CSS
Environments: Microsoft Windows, Ubuntu Linux, Microsoft Office Suite,
Microsoft Visual Studio, JetBrains, Oracle mySQL, GitHub

LANGUAGES	Italian: Mother tongue English: Fluent French: Fluent	B1 (certificate) C1 estimated B1 (certificate) C1 estimated
PUBLICATIONS	<p>S. Demarchi, A. Gimelli and A. Tacchella, <i>Improving Abstract Propagation for Verification of Neural Networks</i>, in International Conference on Modelling and Simulation, ECMS 2024, Cracow, Poland, June 4-7, 2024, Proceedings, 2024.</p> <p>S. Demarchi, D. Guidotti, L. Pulina and A. Tacchella, <i>Supporting Standardization of Neural Networks Verification with VNN-LIB and CoCoNet</i>, in Workshop on Formal Methods for ML-Enabled Autonomous Systems, FoMLAS 2023, Paris, France, July 17-18, 2023.</p> <p>S. Demarchi, <i>Experimenting with Constraint Programming Techniques in Artificial Intelligence: Automated System Design and Verification of Neural Networks</i>, PhD Thesis, 2023.</p> <p>D. Guidotti, S. Demarchi, <i>Counter-Example Guided Abstract Refinement for Verification of Neural Networks</i>, in Cyber-Physical Systems Summer School workshop, CPSWS 2022, Pula, Italy, September 19, 2022, Proceedings, 2022.</p> <p>S. Demarchi, D. Guidotti, A. Pitto and A. Tacchella, <i>Formal Verification of Neural Networks: a Case Study about Adaptive Cruise Control</i>, in International Conference on Modelling and Simulation, ECMS 2022, Aalesund, Norway, May 30th-June 3rd, 2022, Proceedings, 2022.</p> <p>G. Cicala, S. Demarchi, M. Menapace, L. Annunziata and A. Tacchella, <i>A Comparison of Declarative AI Techniques for Computer Automated Design of Elevator Systems</i>, in Intelligenza Artificiale 16 (1), 131-150, 2022</p> <p>S. Demarchi, M. Menapace and A. Tacchella, <i>Automated Design of Elevator Systems: Experimenting with Constraint-Based Approaches</i>, in International Conference of the Italian Association for Artificial Intelligence, AIxIA 2021, Online, Proceedings, 2022.</p> <p>S. Demarchi, M. Menapace and A. Tacchella, <i>Automating Elevator Design with Satisfiability Modulo Theories</i>, in IEEE International Conference on Tools with Artificial Intelligence, ICTAI 2019, Portland, Oregon, November 4-6, 2019, Proceedings, 2019.</p> <p>S. Demarchi, <i>Automated Design of Complex Systems with Constraint Programming Techniques</i>, in Cyber-Physical Systems Summer School workshop, CPSWS 2019, Alghero, Italy, September 23, 2019, Proceedings, 2019.</p>	
ROLES	<p><i>Reviewer</i>, PeerJ Computer Science (2024)</p> <p><i>Sub-reviewer</i>, ICAPS (2023)</p>	
HONORS AND AWARDS	<p><i>Best Paper</i> award, ECMS 2022 Conference</p> <p><i>Best “Creative Lab Idea”</i> award, CPS 2022 Summer School</p>	