Stefano Pessotto

stefano_pessotto@protonmail.com • stefanopessotto.com

Research interests

Automata theory, Logics, Temporal logics, Theory of computation, Complexity theory, Finite model theory, Game theory

Education

2021 – Present **University of Udine** – Udine, Italy
MSc in Computer Science, minor in Algorithms and Automated Reasoning

Relevant coursework

- *Advanced algorithms*: Pattern matching and compression algorithms, Randomized algorithms, Kolmogorov Complexity
- *Automatic system verification: theory and applications*: Reactive systems, Büchi automata, Temporal logics, Verification and validation of reactive systems, Model checking, Applications to AI and Cybersecurity
- *Complexity and information theory*: Main results on time and space complexity theory, Compression, Kolmogorv complexity
- *Logic for applications*: Finite model theory, Game theory, Descriptive complexity theory

2017 – 2021 **University of Udine** – Udine, Italy
BSc in Computer Science
Thesis: ”Discretizzazione e analisi automatica di modelli di crescita tumorale”
Supervisors: Prof. Carla Piazza (*Weighted mean: 26.482, Final Grade: 105/110*)
Sapo is a tool for the analysis of discrete-time polynomial dynamical systems, capable of computing reachability and parameter synthesis. The aim of the thesis is to implement a set of well-known growth models in Sapo and compare results against tumor growth data.

2012 – 2017 **Istituto Tecnico Industriale “Città della Vittoria”** – Vittorio Veneto, Italy
High school leaving qualification in ”Informatica e telecomunicazioni”

Publications

2021 **Speeding up Answer Set Programming by Quantum Computing**
Romanello R., Della Giustina D., Pessotto S., Piazza C.
QUASAR 2024 - Proceedings of the ACM Workshop on Quantum Search and Information Retrieval, Part of: HPDC 2024 - 33rd International Symposium on High-Performance Parallel and Distributed Computing.

Research experience

March 2025 – Present **University of Udine**
Mentors: Prof. Geatti (University of Udine)
Study of the Safety and CoSafety fragments in the finite setting and its impact on model checking.

Teaching experience

2024 **Web Security Tutor for CyberChallenge.IT (University of Udine)**
Laboratory activities teaching web security.

2023 **Web Security Tutor for CyberChallenge.IT (University of Udine)**
Laboratory activities teaching web security.

2022 **Web Security Tutor for CyberChallenge.IT (University of Udine)**
Laboratory activities teaching web security.

Industry experience

April 2018 – October 2019 **Structura Technology & Innovation s.r.l. (Firmware developer)** – Vittorio Veneto, Italy
Firmware development for embedded systems and testing activities.

July 2017 – September 2017 **I.R.C.A. S.p.A. - Zoppas Industries Heating Element Technologies (Intern)** – Vittorio Veneto, Italy
Development of system architecture for an embedded system and mock up, testing activities and training on firmware development and APQP.

September 2016	**Techocad S.R.L. (Intern)** – Vittorio Veneto, Italy Computer assembly and laptop repairs.
May 2016 – July 2016	**G2G Communities CIC (Intern)** – Rhyl, Wales Teaching activities and development of new learning resources.

Talks and tutorials

November 2024	Recognizing Safety and Liveness *Seminar on the Safety and Liveness fragments in the context of automaton.*
June 2024	Introduction to Web Security *Course presentation on the basis of web security.*
January 2022	Teorema di Fagin *Course presentation on Fagin theorem.*

Other activities

2024	Organizer of SnakeCTF *Authors for web security challenges and general event organizer.*
2022 - present	Member of a Quality Assurance Commission in the University of Udine
2020 - present	Member of MadrHacks *Member of the academic cybersecurity team MadrHacks (University of Udine).*
2016	Erasmus+ VET-PRISE 2015 *Scholarship in the project of Erasmus+ VET-PRISE for the year 2015.*

Technical skills

Programming languages
Proficient in: Python, C, PHP, Java, Haskell, SQL, Javascript
Familiar with: C++, Rust, . . .

Software
LaTeX, Git, Linux, . . .

Languages
Italian (mother tongue), English (fluent)

Other interests

Interest in the Linux community, homelab enthustiast