Giulio Segalini

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Education

Delft University of Technology *Sept 2023 – July 2025*
M.Sc. in Computer Science Cum Laude - Special 4TU program in Cybersecurity

- GPA: 8.4, Cum Laude
- **Thesis**: Fair Transaction Ordering on DAGs;
- **Relevant Coursework:** Network Security, Privacy Enhancing Technologies, Security and Cryptography, Distributed Algorithms, Cyber Data Analytics, Cyber Risk Management, Systems Security.

Delft University of Technology *Sept 2020 – June 2023*
B.Sc. in Computer Science and Engineering Cum Laude

- GPA: 9.1/10, Cum Laude, Honors Program;
- **Thesis**: Optimal Decision Trees for Algorithm Selection Problem
- **Relevant Coursework:** Leadership in a Complex World (**Honors Program**), Operating Systems (**C**, **Linux**), Algebra and Cryptography, Computer Graphics (**C++**, **OpenGL**), Algorithm Design (**Java**), Computer Networks, Machine Learning.

Skills & Interests

Technologies: Cuda, Torch, Tokio, OpenGL, scapy, Wireshark, Docker, Spring, Git, Vulkan, Latex, Blockchain, PostgreSQL, Gradle, Sklearn, RocksDB.

Interests: Capture The Flag (CTF), Hacking, Emulation, Themed Parks and Entertainment, Music, Gaming History and Retrogames, Politics, Cooking.

Programming Languages: C, C++, Rust, Python, Assembly, Scala, Haskell, Java, Agda, JavaScript, Z3.

Languages: Italian (Native), **English** (Fluent, main work and study language), **French** (Basic).

Publications

Byzantine-Resilient Federated Computation of Differentially Private Summary Statistics ACM Middleware 2025

Giulio Segalini, Maria Fernandes, Jérémie Decouchant

Middleware 2025

Experience

PhD Candidate in Ai Safety and Security *Neuchâtel, Switzerland*
University of Neuchâtel *Oct 2025 - Present*

- Research interests: Ai Safety and Security, Privacy, Cryptography
- Technologies and platforms used: **Python**, **Linux**, **Torch**, **CUDA**, **Docker**.

Head Teaching Assistant for Network Security, Operating Systems and Distributed Algorithms *Delft, the Netherlands*
Jan 2023 – July 2025
Delft University of Technology

- Helped to organize and manage the courses on a deeper level than a normal teaching assistant. Managed labs and assistants' schedules.
- Designed and developed a standard automatic grading framework for the assignments.
- Restructured course content, created new assignments and handled grading of assignments and exams.
- Gave a lecture on Transaction Order Fairness in blockchain.
- Technologies and platforms used: **C**, **Linux**, **Docker**, **Python**, **scapy**, **Wireshark**, **dpkt**, **ipv8**, **WebLab.**

Teaching Assistant *Delft, the Netherlands*
Delft University of Technology *April 2022 – July 2025*

- Helped Students understand the material, course contents and concepts. Provided support during labs.
- Graded exams and assignments.
- Courses assisted: Computer Networks, Probability Theory and Statistics, Concepts of Programming Languages, Operating Systems, Computer Graphics, Computer Security, Functional Programming, Distributed Algorithms, Network Security.

Research Assistant *Delft, the Netherlands*
Delft University of Technology *July 2023 – Aug. 2023*

- Worked on a research project related to training Optimal Decision Trees using Dynamic Programming.
- Technologies and platforms used: **C++**, **Python**, **R.**

Software Engineer *Delft, the Netherlands*
VideoWindow *April 2022 – July 2022*

- Designed and developed a custom **Wayland Compositor** to display content on multiple screens programmatically and with hardware acceleration support.
- Technologies and platforms used: **Rust**, **Vulkan**, **Linux**, **Wayland.**

Extracurricular Activities

Capture the Flag: Senior member of TU Delft CTF Team. Specialized in Cryptography.

- Participated and won numerous CTF hacking competitions.
- Organized TUDCTF 2023 and 2024, large events with 200+ participants.
- Best academic team in the Netherlands in 2024 and 2022, 2nd best in 2023 according to CTFTime.
- Won the academic division (2nd and 4th place overall) of GlacierCTF 2024 and 2023.
- 5th place SmileyCTF 2025
- 3rd place SunshineCTF 2024

Competitions

- European Union Science Olympiads (EUSO, now EOES) 2018 - Representative for Italy, Silver Medal;
- Italian Team Mathematics Olympiads 2019 — 4th place;
- Qualified for Benelux Algorithmic Programming Contest 2020;
- Delft First Years Programming Contest 2021 — 3rd Place.

Projects

CHIP-8 Emulator and Disassembler *Chip=8 Emulator*

- Developed a (simple) CHIP-8 emulator (interpreter) and disassembler.
- **Technologies Used**: C++.

Research on Optimal Decision Trees for Algorithm Selection *Decision Trees*

- Researched the applicability and accuracy of optimal decision trees for the algorithm selection problem.
- **Technologies Used**: C++, Java, R.

C++ Ray Tracer

- Implemented a Ray Tracer to render scenes realistically.
- Composed of numerous features, such as Depth-of-Field, Motion Blur, Mipmapping, Textures, Environment Mapping and soft shadows.
- **Technologies Used**: C++, OpenGL, GLM.