

N. Ege Saraç

E-mail: esarac@ista.ac.at Homepage: [egesarac.github.io](https://github.com/egesarac) Profile: [Google Scholar](#), [DBLP](#)

Education

- 2019 - 2024 (expected) Ph.D. in Computer Science, *Institute of Science and Technology Austria (ISTA)*
- Focus: Advancing the theory of quantitative and approximate monitoring
 - Supervisor: Thomas A. Henzinger
- 2014 - 2019 B.Sc. in Computer Science and Engineering, *Sabancı University*
- Minor: Mathematics
 - Rank: 1 / 544

Research Interests

- Runtime verification
- Formal methods
- Automata theory

Research Experience

- 2023 Research Intern, *Center for Digital Safety & Security at Austrian Institute of Technology (AIT)*
- Project: Approximate monitoring of distributed systems
 - Conceptualize and implement an approximate distributed monitoring algorithm.
- 2020 Research Rotation Student, *Christoph Lampert Group at ISTA*
- Project: Simplified adversarial training
 - Derived a simple optimization objective and implemented it in a new training method.
- 2018 - 2019 Graduation Project Student, *Sabancı University*
- Project: Blockchain-based marketplace for computational services
 - Managed the group project for a year, developed and implemented a trustless protocol.
- 2017 Undergraduate Research Intern, *Thomas Henzinger Group at ISTA*
- Project: Infinite-state safety monitors
 - Studied expressiveness of several automata models with integer-valued registers.
- 2017 - 2019 Undergraduate Research Assistant, *Sabancı University*
- Project: Synchronizing heuristics for finite-state automata
 - Implemented novel heuristics for finding short synchronizing words faster.

Professional Service

- 2020 - now Publication database maintainer for Thomas Henzinger Group at ISTA
- 2024 Artifact evaluation committee member for CAV
- 2021, 2023 Reviewer for FSTTCS, ATVA, CONCUR, ISSE, Thomas Henzinger Festschrift
- 2023, 2024 Pre-screener for PhD applications at ISTA

Scientific Talks

- 2023 Safety and Liveness of Quantitative Properties and Automata
- [AIT Dependable Systems Engineering Seminar Series](#)
- Advancing the Theory of Quantitative Algorithmic Monitoring
- 2022
- [FBK Embedded Systems Seminar Series](#)
- 2022
- [It-Matters Seminar Series](#)
- Quantitative and Approximate Monitoring
- 2021
- *ISTA & TU Wien FORSYTE Joint Seminar Series*
- Monitorability Under Assumptions
- 2020
- *ISTA & TU Wien FORSYTE Joint Seminar Series*

Publications (*: authors ordered alphabetically)

- 2023 Safety and Liveness of Quantitative Automata
U. Boker, T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
- 2023 Regular Methods for Operator Precedence Languages
T. A. Henzinger, P. Kebis, N. Mazzocchi, N. E. Saraç*
- 2023 Quantitative Safety and Liveness
T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
- 2022 Abstract Monitors for Quantitative Specifications
T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
- 2021 Quantitative and Approximate Monitoring
T. A. Henzinger, N. E. Saraç*
- 2021 Boosting Expensive Synchronizing Heuristics
N. E. Saraç, Ö. F. Altun, K. T. Atam, S. Karahoda, K. Kaya, H. Yenigün
- 2020 Monitorability Under Assumptions (invited paper)
T. A. Henzinger, N. E. Saraç*
- 2018 A Theory of Register Monitors
T. Ferrère, T. A. Henzinger, N. E. Saraç*

Academic Honors & Awards

- 2019 Highest Ranking Student (Sakıp Sabancı Award), *Sabancı University*
- 2018 Logic Mentoring Workshop Student Travel Grant, *ACM SIGLOG*
- 2017 Scholarship for Student Researchers, *Österreichischer Austauschdienst (OeAD)*

Teaching Experience

- 2023 - now "Formalisms Every Computer Scientist Should Know" Teaching Assistant, *ISTA*
- 2023 "Foundations of Model Checking" Guest Lecturer, *ISTA*
- 2022 "Formal Methods" Teaching Assistant, *ISTA*
- 2018 - 2019 "Algorithms" Teaching Assistant, *Sabancı University*
- 2015 - 2018 "Mathematics & Natural Sciences" Peer Study & Workshop Moderator, *Sabancı University*

Skills

- C/C++ (intermediate), Python (basic), OpenMP (basic), CUDA (basic), Solidity (basic)
- English (fluent), German (basic), Turkish (native)