

N. Ege Saraç

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Education

- 2019 - 2024 Ph.D. in Computer Science, *Institute of Science and Technology Austria (ISTA)*
(expected) • Focus: Runtime verification • 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

- 2019 - now Ph.D. Candidate, *Thomas Henzinger Group at ISTA*
• Project: Runtime Monitoring of Quantitative Specifications
• Formalize and investigate resource-precision tradeoffs in quantitative monitoring.
- 2020 Research Rotation Student, *Krishnendu Chatterjee Group at ISTA*
• Project: Quantitative Transducer Analysis
• Defined and studied a quantitative measure of transducer sequentialization.
- 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.
- 2017 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.

Publications (*: authors ordered alphabetically)

- 2023 Quantitative Safety and Liveness (under review)
T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
- 2022 Abstract Monitors for Quantitative Specifications
T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
22nd Intl. Conf. on Runtime Verification (RV)
- 2021 Quantitative and Approximate Monitoring [\[video\]](#)
T. A. Henzinger, N. E. Saraç*
36th Ann. ACM/IEEE Symp. on Logic in Computer Science (LICS)
- 2021 Boosting Expensive Synchronizing Heuristics
N. E. Saraç, Ö. F. Altun, K. T. Atam, S. Karahoda, K. Kaya, H. Yenigün.
Expert Systems with Applications (ESWA), Volume 167
- 2020 Monitorability Under Assumptions (invited paper)
T. A. Henzinger, N. E. Saraç*
20th Intl. Conf. on Runtime Verification (RV)

- 2018 A Theory of Register Monitors
T. Ferrère, T. A. Henzinger, N. E. Saraç*
33rd Ann. ACM/IEEE Symp. on Logic in Computer Science (LICS)

Scientific Talks

- 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*

Teaching Experience

- 2022 “Formal Methods” Teaching Assistant, *ISTA*
- Offered recitations and graded homework assignments.
- 2018 - 2019 “Algorithms” Teaching Assistant, *Sabancı University*
- Conducted grading, weekly office hours, and recitations for up to 105 students.
- 2015 - 2018 “Mathematics & Natural Sciences” Peer Study & Workshop Moderator, *Sabancı University*
- Delivered study sessions and workshops for up to 120 students and 6 hours per week.

Trainings and Workshops Attended

- 2022 Basics in Didactics – Teaching and Learning in Higher Education, *ISTA*
- 2019 Science Research Writing – A Technical Introduction, *ISTA*

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)*

Professional Service

- 2020 - now Publication Database Maintainer, *Thomas Henzinger Group at ISTA*
- 2021 Subreviewer, *Thomas Henzinger Festschrift - Int. Conf. Celebrating His 60th Birthday*

Skills

- Technical C/C++ (intermediate), Python (basic), LaTeX
- Soft Attention to detail, Adaptability, Ownership, Teamwork, Problem-solving
- Language English (fluent), German (basic), Turkish (native)

Non-Professional Activities & Awards

- 2016 Student Extracurricular Activities Award, *Sabancı University*
- 2015 - 2017 Executive Member & Stage Coordinator, *Sabancı University Music & Spring Festival Clubs*