N. Ege Saraç

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Education

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

- 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 & Project Experience

2019 - now   Ph.D. Candidate, *Thomas Henzinger Group at ISTA*
- <u>Project</u>: Runtime monitoring of quantitative specifications
- Formalize and investigate resource-precision tradeoffs in quantitative monitoring.

2020   Research Rotation Student, *Christoph Lampert Group at ISTA*
- <u>Project</u>: Simplified adversarial training
- Derived a simple optimization objective and implemented it in a new training method.

2018 - 2019   Graduation Project Student, *Sabancı University*
- <u>Project</u>: Blockchain-based marketplace for computational services
- Managed the group project for a year, developed and implemented a trustless protocol.

2017   Research Intern, *Thomas Henzinger Group at ISTA*
- <u>Project</u>: Infinite-state safety monitors
- Studied expressiveness of several automata models with integer-valued registers.

2017 - 2019   Undergraduate Research Assistant, *Sabancı University*
- <u>Project</u>: Synchronizing heuristics for finite-state automata
- Implemented novel heuristics for finding short synchronizing words faster.

Publications (*: authors ordered alphabetically)

2023   <u>Quantitative Safety and Liveness</u>
T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
26th Intl. Conf. on Foundations of Software Science and Computation Structures (FoSSaCS)

2022   <u>Abstract Monitors for Quantitative Specifications</u>
T. A. Henzinger, N. Mazzocchi, N. E. Saraç*
22nd Intl. Conf. on Runtime Verification (RV)

2021   <u>Quantitative and Approximate Monitoring</u>   [video]
T. A. Henzinger, N. E. Saraç*
36th Ann. ACM/IEEE Symp. on Logic in Computer Science (LICS)

2021   <u>Boosting Expensive Synchronizing Heuristics</u>
N. E. Saraç, Ö. F. Altun, K. T. Atam, S. Karahoda, K. Kaya, H. Yenigün
Expert Systems with Applications (ESWA), Volume 167

2020	<u>Monitorability Under Assumptions</u> (invited paper)
	T. A. Henzinger, N. E. Saraç*
	20th Intl. Conf. on Runtime Verification (RV)
2018	<u>A Theory of Register Monitors</u>
	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 & 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*

Non-Professional Activities & Awards

2016   Student Extracurricular Activities Award, *Sabancı University*

2015 - 2017   Executive Member & Stage Coordinator, *Sabancı University Music & Spring Festival Clubs*

Skills

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