

Levente Bajczi

Computer scientist · PhD Student

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🎓 Education and Degrees

- 2022– **Computer Science PhD**, *Budapest University of Technology and Economics*.
Advised by Vince Molnár
- 2021–2022 **Computer Engineering MSc**, *Budapest University of Technology and Economics*.
Thesis: Handling Axiomatic Memory Models in Abstraction-Based Model Checking of Concurrent and Distributed Systems 📄
- 2017–2021 **Computer Engineering BSc**, *Budapest University of Technology and Economics*.
Thesis: Stateless software model checking parameterized with memory consistency models 📄

🌐 Employment

- 2021– **Center for University-Industry Cooperation, BME, Budapest, HU**, Research Assistant.
Involved in systems engineering related research and development.
- 2020–2021 **thyssenkrupp Components Technology Hungary, Budapest, HU**, IoT Consultant.
Providing feedback to IoT system developers (related to communication, networking and system design).
- 2019–2022 **Budapest University of Technology and Economics, Budapest, HU**, Teaching Assistant.
Delivering practical lectures, correcting and assembling exams, managing homework IT infrastructure.

👤 Internships

- 2020 **thyssenkrupp Components Technology Hungary, Budapest, HU**, Software Engineering Intern.
Developing experimental multiprocessing support for a custom AUTOSAR Operating System.

🤝 Volunteering

- 2015–2021 **Skool, Budapest, HU**, Mentor & Programming Tutor.
Helping underrepresented students start their journey with programming.

⚙️ Certifications

- 2021 **OMG-OCSMP Model User**.
Demonstrating the ability to interpret and understand basic MBSE concepts along with SysML models.







💡 Skills and Interests

Research Formal methods, model checking, systems engineering, SAT/SMT, compilers
Development Java, Kotlin, Python, C, C++, Shell, Git, CI/CD
Tools Theta 🔄 (maintainer), Benchexec 🔄 (contributor), JavaSMT 🔄 (contributor)
Languages Hungarian (native), English (advanced), German (conversational)

Awards and Scholarships

- 2019–2023 **"ÚNKP" Research Scholarship.**
2019–2022 **National Academic Scholarship.**
2018–2021 **Scholarship of the Faculty of BME-VIK.**
2019, 2021 **First place at the National Scientific Students' Associations Conference.**
2020 **First place at the Scientific Students' Associations Conference (Software).**
2018, 2021 **First place at the Scientific Students' Associations Conference (Embedded Systems).**
2018, 2021 **Award of the Rector of the University.**
2019 **Travel Grant by ACM SIGBED to attend EMSOFT '19.**
2019 **EFOP Research Scholarship.**
2017 **Grant from the Human Capacities Grant Management Office.**
2016–2018 **Scholarship from the Richter Gedeon Talentum Foundation.**

Selected Publications

- ACM TECS 2019 **Will My Program Break on This Faulty Processor? Formal Analysis of Hardware Fault Activations in Concurrent Embedded Software,** 
L. Bajczi, A. Vörös, V. Molnár.
- TACAS'22 **Theta: portfolio of CEGAR-based analyses with dynamic algorithm selection (Competition Contribution),** 
Zs. Ádam, L. Bajczi, M. Dobos-Kovács, Á. Hajdu, V. Molnár.
- SPIN'24 **Solving Constrained Horn Clauses as C Programs with CHC2C,** 
L. Bajczi, V. Molnár.
- Full lists  leventebajczi.github.io/publications.html  WDQ2jg4AAAAJ  0000-0002-6551-5860

Academic Activities and Services

- PC member TACAS'24 (SV-COMP), TACAS'23 (SV-COMP), FormaliSE'23, CSAE'23
Subreviewer ISSRE-W'22, VMCAI'23, SBMF'23
AE TACAS'24 (SV-COMP), TACAS'23 (SV-COMP), TACAS'22 (SV-COMP), CAV'22, CAV'23, FormaliSE'24, ESOP/FASE/FoSSaCS'24

Teaching

- Courses Basics of Programming 1-2 · Formal Methods · Operating Systems · Systems Modeling · Systems Engineering · Databases · Digital Technology
Students Advising 3 MSc students on abstraction-based software verification