

# 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)







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## 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.**

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## 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](https://leventebajczi.github.io/publications.html)  [WDQ2jg4AAAAJ](https://orcid.org/WDQ2jg4AAAAJ)  [0000-0002-6551-5860](https://doi.org/10.0000-0002-6551-5860)

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## Academic Activities and Services

- Reviewer SCP (journal)
- 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

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## 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