

Tassilo Tanneberger

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Research Interests

Domain Specific Languages, Compilers, Design Automation, Embedded Networked Systems, Computer Engineering

Education

- 8/2021 - now Study of Computer Science (Diplom Dipl.-Inf.)
TUD Dresden University of Technology
- 8/2013 - 5/2021 Grammerschool with Grade 1.7

Professional Experience

- 9/2024 - 4/2025 Visiting Research Scholar at UC Berkeley
supervised by Edward A. Lee
- 10/2023 - now Co-founder and Member of Board of Directors
DD-IX Dresden Internet Exchange e.V.
- 11/2021 - now Research Student at the Chair for Compiler Construction,
TUD Dresden University of Technology
- 4/2021 - 10/2021 Engineer working on Tooling for Industrial Robots
Society for the Advancement of Applied Computer Science (GFaI)

Teaching Experience

- 9/2021 - 9/2022 AG Leiter at Schülerrechenzentrum
Taught Algorithms and Datastructures to motivated 11th and 12th graders

Extracurricular Activities

- 11/2022 - 11/2024 Member of the Faculty Council
Faculty of Computer Science, TUD Dresden University of Technology
- 11/2021 - 11/2023 Member, Speaker, and Admin of the CS Student Council
Fachschaftsrat Informatik (iFSR)

Talks

- 24. Mar 2025 Synthesis of Distributed Fault-Tolerant Flight Software using Lingua Franca,
FlightSoftware Workshop, Seattle
Recording — Slides
- 6. Sep 2024 Lingua Franca a Language to Coordinate the RIOT, RIOT Summit, Vienna
Recording — Slides
- 26. Apr. 2024 DD-IX: A Local Infrastructure with Local Impact for You, ALASCA Tech-Talk, Online
Recording — Slides
- 18. Sep. 2023 DD-IX at BCIX Roundtable, BCIX Roundtable, Berlin
Slides
- 17. Sep. 2022 Open Data: Receive it Yourself, Datenspuren, Dresden
Recording — Slides

Selected Open Source Projects

- 2024 reactor-uc
Lingua Franca runtime purpose build for networked microcontrollers.
<https://github.com/lf-lang/reactor-uc>
- 2022 TLMS - Transit Live Mapping Solutions
Reverse engineering of the radio protocol used for controlling traffic lights in Germany. Design and implementation of a platform that shows live positions of trams and buses based on this data.
<https://map.tlm.solutions>
- 2021 Lingua Franca (LF) - a polyglot coordination language for reactive, concurrent, and time-sensitive applications.
Optimizing and maintaining the C++ runtime environment, development of a runtime for microcontrollers, building a package manager and built tool for LF. <https://lf-lang.org>

Travel Grants & Scholarships

- 10/2022 RIPE85 Fellowship
10/2025 - 10/2026 Deutschlandstipendium
sponsored by Infineon AG

References

Prof. Dr.-Ing. Jeronimo Castrillon
Chair of Compiler Construction
Barkhausen-Bau Room III68
Helmholtzstrasse 18
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Prof. Dr. Matthias Wählisch
Chair for Distributed and Networked Systems
Andreas-Pfitzmann-Bau Room 3111
Nöthnitzerstrasse 46
01069, Dresden, Germany
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Publications

- [Lin et al.(2024a)] Shaokai Lin, Erling Jellum, Mirco Theile, Tassilo Tanneberger, Binqi Sun, Chadlia Jerad, Ruomu Xu, Guangyu Feng, Christian Menard, Marten Lohstroh, Jeronimo Castrillon, Sanjit Seshia, and Edward Lee. 2024a. PretVM: Predictable, Efficient Virtual Machine for Real-Time Concurrency. *arXiv:2406.06253 [eess.SY]*
- [Lin et al.(2025)] Shaokai Lin, Erling Jellum, Mirco Theile, Tassilo Tanneberger, Binqi Sun, Chadlia Jerad, Yimo Xu, Guangyu Feng, Magnus Mæhlum, Jian-Jia Chen, Martin Schoeberl, Linh Thi Xuan Phan, Jeronimo Castrillon, Sanjit A. Seshia, and Edward A. Lee. 2025. Quasi-Static Scheduling for Deterministic Timed Concurrent Models on Multi-Core Hardware. *ACM Trans. Embed. Comput. Syst.* (Sept. 2025). <https://doi.org/10.1145/3762653> Just Accepted.
- [Lin et al.(2024b)] Shaokai Lin, Tassilo Tanneberger, Jiahong Bi, Guangyu Feng, Ruomu Xu, Julian Robledo, Robert Khasanov, and Jeronimo Castrillon. 2024b. Navigating Time and Energy Trade-offs in Reactive Heterogeneous Systems. *IEEE Embedded Systems Letters, special issue on Time-Centric Reactive Software (TCRS, ESWeek 2024)* (Oct. 2024), 4 pages. <https://doi.org/10.1109/LES.2024.3469278>
- [Menard et al.(2023)] Christian Menard, Marten Lohstroh, Soroush Bateni, Matthew Chorlian, Arthur Deng, Peter Donovan, Clément Fournier, Shaokai Lin, Felix Suchert, Tassilo Tanneberger, Hokeun Kim, Jeronimo Castrillon, and Edward A. Lee. 2023. High-performance Deterministic Concurrency Using Lingua Franca. *ACM Trans. Archit. Code Optim.* 20, 4, Article 48 (oct 2023), 29 pages. <https://doi.org/10.1145/3617687>