Tassilo Tanneberger

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

2022/10 RIPE85 Fellowship

References

Prof. Dr.-Ing. Jeronimo Castrillon
Chair of Compiler Construction
Barkhausen-Bau Room III68
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Prof. Dr. Matthias Wählisch
Chair for Distributed and Networked Systems
Andreas-Pfitzmann-Bau Room 3111
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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`