

Joachim Totzeck, né Meyer

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Education

- 02.2022 - present: Saarland University
Compiler Design Lab
PhD Student (preparatory)
- 04.2020 - 12.2021: Heidelberg University
Computer Engineering M.Sc.
Major: Application Specific Computing
Project and Masterthesis: LLVM assisted CPU optimizations in hipSYCL (now: AdaptiveCpp)
- 10.2019 - 03.2020: Augsburg University
Computer Science M.Sc. (1st semester)
- 08.2018 - 01.2019: Örebro University
Semester abroad
- 10.2016 - 11.2019: Augsburg University
Computer Science & Multimedia B.Sc.

Professional experience

- 05.2024 - 08.2024: Lawrence Livermore National Laboratory - Computing
- Internship with Johannes Doerfert
- Work on input generation for LLVM & super optimization for GPUs
- 02.2022 – present: Saarland University – Compiler Design Lab
- Research on Compilation for HPC (e.g. Thorin2, AdaptiveCpp, LLVM)
- HPC Admin & HPC Strategy
- 02.2019 – 01.2022: STEMMER IMAGING AG
- C++ image processing library Common Vision Blox
- B.Sc. thesis evaluating OpenCL, Vulkan, CUDA & SYCL (partly presented at IWOCL)
- Maintenance and addition of CUDA backends
- 02.2019 – 12.2021: SeventyThree Networks GmbH
- Consulting for cloud migration
- Continued reviews & DevOps
- 05.2015 – 01.2019: SeventyThree Networks GmbH
- Lead VB.Net Application- and Servicedeveloper
- Introduction and maintenance of DevOps infrastructure

Publications

2025	<i>MimlR: An Extensible and Type-Safe Intermediate Representation for the DSL Age.</i> Leißa, R, Ullrich, M., Meyer, J., Hack, S. Proc. ACM Program. Lang. 9, POPL, 2025.
2024	<i>Input-Gen: Guided Generation of Stateful Inputs for Testing, Tuning, and Training.</i> Ivanov, I. R., Meyer, J., Grossman, A., Moses, W. S., Doerfert, J. arXiv preprint arXiv:2406.08843, 2024.
2023	<i>Implementation Techniques for SPMD Kernels on CPUs.</i> Meyer, J., Alpay, A., Hack, S., Fröning, H. and Heuveline, V. Proceedings of the 2023 International Workshop on OpenCL, Association for Computing Machinery, 2023.
2020	<i>Evaluation of Modern GPGPU Technologies for Image Processing.</i> Meyer, J. Proceedings of the International Workshop on OpenCL, Association for Computing Machinery, 2020.

Skills

Programming:	C++, Python, Java, ... GPGPU: OpenCL, CUDA, SYCL, Vulkan
Tooling:	Various Compilers & IDEs, LLVM, Windows & Linux, Git, SVN, ...
Languages:	German Native English C1 Swedish A1
Soft:	Teamplay, life long learning, knowledge sharing, taking on responsibility