Philipp Leitner
Curriculum Vitæ (June 10, 2025)

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SUMMARY

I am an Associate Professor (Docent) of Software Engineering at Chalmers and the University of Gothenburg, Sweden, where I lead the Internet Computing and Emerging Technologies (ICET) research lab. I hold a PhD degree from Vienna University of Technology. My primary research interest is empirical software engineering, with a particular focus on software performance, developer tooling, and the development of Web- and cloud-based systems. I have published around 125 peer-reviewed publications, leading to an h-index of 46 as tracked by Google Scholar.

EDUCATION

Oavlönad Docent in Software Engineering   Jun. 2019
Chalmers University of Technology

PhD Business Informatics   Oct. 2007 - Oct. 2011
Vienna University of Technology

APPOINTMENTS AND WORK HISTORY

Associate Professor   Since Oct. 19
Chalmers | University of Gothenburg

Assistant Professor   Aug. 17 - Oct. 19
Chalmers | University of Gothenburg

Senior Research Associate   Jan. 2014 - Jul. 2017
University of Zurich

Postdoctoral Researcher   Nov. 2011 - Dec. 2013
Vienna University of Technology

Research and Teaching Assistant   Oct. 2007 - Oct. 2011
Vienna University of Technology

Research Software Engineer   Jul. 2005 - Sep. 2007
Siemens PSE, Vienna

SELECTED GRANTS

I have successfully acquired grants (personal as well as project grants) totalling around 28 MSEK.
Selected list:

- 3x WASP Academic PhD Student (2017-2030)
  Academic Supervisor
  Grant value >10,000,000 SEK
- FFI TrafCloud (2019 – 2021), VINNOVA
  Co-applicant
  Chalmers budget 5,500,000 SEK (my part ≈3,200,000 SEK)
- VR Starting Grant (2019 – 2022), VR
  Sole applicant
  Grant value 3,639,000 SEK
- Individual Project (2016 – 2019), Swiss National Science Foundation
  Sole applicant
  Grant value 180,000 CHF, at University of Zurich

SELECTED TALKS

- *A Brief Journey Through History - From Distributed Objects over SOA to Microservices*, Two opening keynotes at CLOSER and ICEIS, April 2025
- *Measuring, Predicting, and Improving the Performance of Software Systems*, Invited Talk at the Department Colloquium, Institute for Informatics, University of Zurich, November 2024
- *Unit testing performance using code microbenchmarks. How far are we?*, Invited Talk at MongoDB Inc., November 2020
- *Performance stability of (public) clouds*, Invited Talk at Vehicle Electronics and Connected Services (VECS, industrial conference), April 2019 tem *Predictability of Performance in Public Clouds - Some Empirical Data and Lessons Learned for Software Performance Testing*, Seminar at IBM Research, Ireland, November 2017
- *How Predictable is the Performance of IaaS Instances? Some Insights from Benchmarking EC2, GCE, Azure, and Softlayer*, Open Cloud Day, ZHAW Winterthur, June 2016
- *Trends, Opportunities and Challenges of Software Development for the Cloud*, Two talks at Indian Institute of Technology New Delhi and Ropar, by invitation of the Swiss Embassy in India, November 2015

SELECTED AWARDS

- Distinguished Reviewer Award (ICSE 2023)
- Distinguished Reviewer Award (MSR 2020)
- Outstanding Reviewer Award (ICPE 2019 and 2020)
- Best Student Paper Award (Middleware 2016)
- Best Short Paper Award (ICPC 2016)

SELECTED SERVICE

- Associate Editor of Springer Empirical Software Engineering (EMSE)
- Academic Editor of PeerJ Computer Science (until 2024)
- Chair of the Selection Committee of the 2022 SPEC Kaivalya Dixit Distinguished Dissertation Award
- Program Co-Chair of 13th ACM/SPEC International Conference on Performance Engineering (ICPE)
- Editorial Board Member of Elsevier's Journal on Systems and Software (JSS). Responsible for coordinating and implementing the publicity efforts of the journal. 2017 - 2019.
- General Chair of the 1st International Workshop on Monitoring and Prediction of Cloud Services (MoPoC'12), co-located with ICSOC'12.
- Various PC memberships, including ICSE 2023, FSE 2024 and 2025, ASE 2022 and 2024, CLOUD (various years), ICPE (various years), and MSR (various years).

PHD STUDENTS

- **Lirong (Esme) Yi** (Optimizing Performance using Large Language Models)
- **Ranim Khojah** (Large Language Models in Software Engineering, *co-supervisor*)
- **Huaifeng Zhang** (Debloating ML Systems, *co-supervisor*)
- **Linda Erlenhov** (Bots in Software Development)
- **Hazem (Peter) Samoaa** (graduated at Chalmers, ML for Performance Prediction)
- **Hamdy Michael Ayas** (graduated at Chalmers, Architectural Decision Making in Cloud Computing, now consultant at ICTech, Sweden)
- **Joel Scheuner** (graduated at Chalmers, Cloud Benchmarking, now software engineer at LocalStack, Switzerland)
- **Christoph Laaber** (graduated at UZH, microbenchmarking in CI builds, co-supervised with Harald C. Gall, now postdoc at Simula, Norway)
- **Gerald Schermann** (graduated at UHZ, continuous experimentation, co-supervised with Harald C. Gall, now release engineer at digitec.ch, Switzerland)
- **Jürgen Cito** (graduated at UZH, cloud performance engineering, co-supervised with Harald C. Gall, now Associate Professor at TU Wien, Austria)

SELECTED PAPERS

I have published around 125 peer-reviewed publications, leading to an h-index of 46. A full list is available on Google Scholar: link.

- R. Khojah, M. Mohamad, **P. Leitner**, and F. Gomes: Beyond Code Generation: An Observational Study of ChatGPT Usage in Software Engineering Practice. Proceedings of the ACM International Conference on the Foundations of Software Engineering (FSE). 2024.

- H. Zhang, M. Alhanahnah, F. Ahmed, D. Fatih, **P. Leitner** and A. Ali-Eldin: *Machine Learning systems are Bloated and Vulnerable*, in Proceedings of the ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS). 2024.

- H. M. Ayas, **P. Leitner**, and R. Hebig: *An Empirical Study of the Systemic and Technical Migration Towards Microservices*, Empirical Software Engineering (EMSE), 2023.

- M. Jangali, Y. Tang, N. Alexandersson, **P. Leitner**, J. Yang, and W. Shang: *Automated Generation and Evaluation of JMH Microbenchmark Suites from Unit Tests*, IEEE Transactions on Software Engineering (TSE), 2022.

- P. Samoaa and **P. Leitner**: *An Exploratory Study of the Impact of Parameterization on JMH Measurement Results in Open-Source Projects*, in Proceedings of the ACM/SPEC International Conference on Performance Engineering (ICPE). 2021.

- C. Laaber, **P. Leitner**, and H. Gall: *Applying Test Case Prioritization to Software Microbenchmarks*, Empirical Software Engineering (EMSE), 26, 133 (2021).

- C. Laaber, S. Würsten, H. C. Gall, and **P. Leitner**: *Dynamically Reconfiguring Software Microbenchmarks: Reducing Execution Time Without Sacrificing Result Quality*, in Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE). 2020.

- L. Erlenhov, F. Gomes, and **P. Leitner**: *An Empirical Study of Bots in Software Development - Characteristics and Challenges from a Practitioner's Perspective*, in Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE). 2020.

- J. Cito, **P. Leitner**, M. Rinard, and H. C. Gall: *Interactive Production Performance Feedback in the IDE*, in Proceedings of the 41st ACM/IEEE International Conference on Software Engineering (ICSE). 2019.

- D. Costa, CP. Bezemer, **P. Leitner**, and A. Andrzejak: *What's Wrong With My Benchmark Results? Studying Bad Practices in JMH Benchmarks*, in IEEE Transactions on Software Engineering (TSE). 2019.

- C. Laaber, J. Scheuner, and **P. Leitner**: *Software Microbenchmarking in the Cloud. How Bad is it Really?*, Empirical Software Engineering (EMSE). 2019.

- **P. Leitner**, E. Wittern, J. Spillner, and W. Hummer: *A Mixed-Method Empirical Study of Function-as-a-Service Software Development in Industrial Practice*, Journal of Systems and Software (JSS). 2019.

- **P. Leitner** and J. Cito: *Patterns in the Chaos – a Study of Performance Variation and Predictability in Public IaaS Clouds*, ACM Transactions on Internet Technology (TOIT). 2016.

- G. Schermann, D. Schöni, **P. Leitner**, and H. C. Gall: *Bifrost – Supporting Continuous Deployment with Automated Enactment of Multi-Phase Live Testing Strategies*, in Proceedings of the ACM/IFIP/USENIX Middleware Conference. 2016.

- J. Cito, **P. Leitner**, T. Fritz, and H. C. Gall: *The Making of Cloud Applications – An Empirical Study on Software Development for the Cloud*, in Proceedings of the 10th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on Foundations of Software Engineering (ESEC/FSE). 2015.