

Dr. André Bauer

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ACADEMIC CAREER

Argonne National Laboratory

ASSOCIATED RESEARCHER

Lemont, United States

since January 2023

University of Chicago

POSTDOCTORAL RESEARCHER (PROF. FOSTER)

Chicago, United States

since November 2022

- Supervision of Ph.D. students
- Establishment of collaborations

University of Würzburg

RESEARCH GROUP LEADER (PROF. KOUNEV)

Würzburg, Germany

January 2021 — October 2022

- Supervision of students
 - 4 PhD students (co-supervision)
 - 5 Bachelor students
 - 4 Master students
- Establishment of collaborations
- Support for teaching
- Acquisition of third-party funding

University of Würzburg

RESEARCH ASSISTANT

Würzburg, Germany

October 2016 — December 2020

- Supervision of students
 - 14 Bachelor students
 - 3 Master students
- Establishment of collaborations
- Support for teaching

SCHOOL & ACADEMIC EDUCATION

University of Würzburg

HABILITATION

Würzburg, Germany

since July 2022

University of Würzburg

DOCTORAL CANDIDATE, DR. RER. NAT. (COMPUTER SCIENCE)

Würzburg, Germany

October 2016 — December 2020

- **Dissertation** “Automated Hybrid Time Series Forecasting: Design, Benchmarking, and Use Cases”
- **Advisor** Prof. Dr. Samuel Kounev
- **Grade** Summa cum laude (1.0) — *Disputation December 22, 2020*

University of Würzburg

MASTER OF SCIENCE IN COMPUTER SCIENCE

Würzburg, Germany

October 2014 — September 2016

Blekinge Institute of Technology

SEMESTER ABROAD (ERASMUS PROGRAM)

Karlskrona, Sweden

August 2015 — January 2016

University of Würzburg

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Würzburg, Germany

October 2012 — October 2014

AWARDS & SCHOLARSHIPS

2023 SPECTacular Award, Standard Performance Evaluation Corporation (SPEC)

The SPECTacular Award is given to individuals who have significantly exceeded expectations in their contributions to SPEC.

Gainesville, United States

February 2023

Leadership Academy Fellowship, German Scholars Organization

The Leadership Academy Fellowship is awarded to 25 outstanding researchers from all disciplines.

Berlin, Germany

January 2023

SPEC Kaivalya Dixit Distinguished Dissertation Award, SPEC

The SPEC Kaivalya Dixit Distinguished Dissertation Award is an annual award recognizing one outstanding doctoral dissertation within the scope of the SPEC Research Group in terms of scientific originality, scientific significance, practical relevance, impact, and presentation.

Gainesville, United States

April 2022

Distinguished Dissertation Award , Faculty of Mathematics and Computer Science The Distinguished Dissertation Award is an annual award for outstanding dissertations from the Faculty of Mathematics and Computer Science.	Würzburg, Germany July 2021
Dissertation Award , Unterfränkische Gedenkjahrstiftung für Wissenschaft The Dissertation Award is an annual award for outstanding dissertations from all disciplines.	Würzburg, Germany May 2021
Summa cum laude , University of Würzburg Grading of the doctoral thesis ‘Automated Hybrid Time Series Forecasting: Design, Benchmarking, and Use Cases’.	Würzburg, Germany December 2020
Winner of the FameLab State of Bavaria final , British Council In this science communication competition, researchers must present their work in three minutes in an understandable and humorous way.	Regensburg, Germany March 2020
Sokrates/Erasmus Grant , University of Würzburg Mobility grant for a semester abroad in Sweden.	Würzburg, Germany August 2015 — January 2016
Deutschlandstipendium , University of Würzburg The Deutschlandstipendium supports talented and high-achieving students, taking into account not only first-class grades but also social commitment and special personal achievements.	Würzburg, Germany October 2014 — September 2015
Heinrich-Thein Award , Heinrich-Thein-Stiftung Award for talented students pursuing the “second-chance education”.	Haßfurt, Germany November 2009

FUNDINGS

Google Research Grant (\$1,000) , Google Acquisition of Google Cloud credits for the project “Performance Analysis and Prediction of Microservices in Cloud Environments”.	March 2023
DFG Research Grant (\$347,235) , Deutsche Forschungsgemeinschaft e.V. Applicant and PI for the project “MINERVA: Performance Prediction of Microservice Applications with Black-box Container Orchestration”, starting in October 2023, with a project duration of 3 years.	January 2023
Industrial project , DATEV eG Assistance for the extension of the project “Self-Configuring Autoscaler” (\$30,068), with a project duration of 3 months.	May 2022
Industrial project , DATEV eG Assistance with the application of the project “Self-Configuring Autoscaler” (\$71,200), with a project duration of 6 months.	July 2021
Normalverfahren Grant 2021 (\$3,234) , Universitätsbund Würzburg Acquisition of the Normalverfahren Grant for the project “Prediction of Winter Mortality of Bee Colonies Using Machine Learning”.	April 2021

TEACHING ACTIVITIES

Lecturer of the (self-created) lecture Time Series Analysis and Forecasting ^[MA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany April 2022 — September 2022
Co-lecturer of the lecture Advance Programming ^[MA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany October 2021 — March 2022
Co-lecturer of the lecture Computer Science: Getting Started ^[BA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany April 2021 — September 2021
Co-lecturer of the lecture Operating Systems ^[BA/MA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany October 2020 — March 2021
Instructor of the Software Engineering Seminar ^[BA/MA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany October 2016 — March 2021
Coordinator & instructor of the exercise for the lecture Operating Sys. ^[BA/MA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany October 2016 — March 2021
Coordinator & instructor of the Practical Course in Software ^[BA] UNIVERSITY OF WÜRZBURG	Würzburg, Germany October 2016 — September 2020

21st Stuttgart Science Slam

LUUPS

Stuttgart, Germany

October 2022

FameLab State of Bavaria final

BRITISH COUNCIL

Regensburg, Germany

March 2021

6th Alumni-Science Slam

UNIVERSITY OF WÜRZBURG

Würzburg, Germany

November 2020

FameLab German final

BRITISH COUNCIL

Bielefeld, Germany

May 2020

FameLab State of Bavaria final

BRITISH COUNCIL

Regensburg, Germany

March 2020

14th Munich Science Slam

LUUPS

Munich, Germany

February 2020

33rd Dortmund Science Slam

LUUPS

Dortmund, Germany

November 2019

Time Series Analysis and Forecasting, University of Würzburg

Lecturer of this self-created master's course (English).

Würzburg, Germany

April 2022 — September 2022

Advance Programming, University of Würzburg

Co-Lecturer with Prof. Kounev of this master's course (English).

Würzburg, Germany

October 2021 — March 2022

Computer Science: Getting Started, University of Würzburg

Co-Lecturer with Prof. Kounev of this bachelor's course (German).

Würzburg, Germany

April 2021 — September 2021

Operating Systems, University of Würzburg

Co-Lecturer with Dr. Herbst of this bachelor's/master's course (German).

Würzburg, Germany

October 2020 — March 2021

Software-Engineering Seminar, University of Würzburg

Instructor of this bachelor's/master's course (German).

Würzburg, Germany

October 2016 — March 2021

Operating Systems (Exercise), University of Würzburg

Coordinator & instructor of this bachelor's/master's course (German).

Würzburg, Germany

October 2016 — March 2021

Practical Course in Software, University of Würzburg

Coordinator & instructor of this bachelor's course (German).

Würzburg, Germany

October 2016 — September 2020

REVIEWING ACTIVITIES

Journals

- Empirical Software Engineering
- Journal of Systems & Software
- Transactions on Cloud Computing
- Transactions on Services Computing
- Journal of Parallel and Distributed Computing
- Journal of Future Generation Computer Systems
- Transactions on Network and Service Management
- Journal of Systems and Software

November 2022

September 2022

May 2021

February 2020

December 2019

March 2019

November 2018

March 2018

Conferences

• International Symposium on Cluster, Cloud and Internet Computing 2023	January 2023
• International Conference on Utility and Cloud Computing 2022	October 2022
• Symposium on Software Performance 2022	September 2022
• International Conference on Time Series and Forecasting 2022	April 2022
• International Conference on Distributed Computing Systems 2021	February 2021
• International Symposium on Software Engineering for Adaptive and Self-Managing Systems 2020	February 2020
• International Conference on Performance Engineering 2020	November 2019
• International Middleware Conference 2019	June 2019
• International Conference on Utility and Cloud Computing 2018	September 2018
• International Conference on Self-Adaptive and Self-Organizing Systems 2018	May 2018
• International Symposium on Software Engineering for Adaptive and Self-Managing Systems 2018	February 2018
• International Conference on Dependable Systems and Networks 2018	January 2018
• International Conference on Performance Engineering 2018	November 2017
• International Conference on Self-Adaptive and Self-Organizing Systems 2017	June 2017
• Symposium on Modelling, Analysis, and Simulation of Computer and Telecommunication Systems 2017	May 2017
• International Symposium on Software Engineering for Adaptive and Self-Managing Systems 2017	February 2017
• International Conference on Software Engineering 2017	January 2017
• International Conference on Performance Engineering 2017	November 2016

SELECTED PUBLICATIONS

A. Bauer, M. Züfle, N. Herbst, A. Zehe, A. Hotho, and S. Kounev (2020). “Time Series Forecasting for Self-Aware Systems”. In: *Proceedings of the IEEE* 108.7.

A. Bauer, N. Herbst, S. Spinner, A. Ali-Eldin, and S. Kounev (2018). “Chameleon: A Hybrid, Proactive Auto-Scaling Mechanism on a Level-Playing Field”. In: *IEEE Transactions on Parallel and Distributed Systems (TPDS)* 30.4.

N. Herbst, A. Bauer, S. Kounev, G. Oikonomou, E. V. Eyk, G. Kousiouris, A. Evangelinou, R. Krebs, T. Brecht, C. Abad, and A. Iosup (2018). “Quantifying Cloud Performance and Dependability: Taxonomy, Metric Design, and Emerging Challenges”. In: *ACM Transactions on Modeling and Performance Evaluation of Computing Systems (TOMPECS)* 3.4.

A. V. Papadopoulos, L. Versluis, A. Bauer, N. Herbst, J. von Kistowski, A. Ali-Eldin, C. Abad, J. N. Amaral, P. Tuma, and A. Iosup (2021). “Methodological Principles for Reproducible Performance Evaluation in Cloud Computing”. In: *IEEE Transactions on Software Engineering (TSE)* 47.8.

A. Bauer, M. Züfle, S. Eismann, J. Grohmann, N. Herbst, and S. Kounev (2021). “Libra: A Benchmark for Time Series Forecasting Methods”. In: *Proceedings of the 12th ACM/SPEC International Conference on Performance Engineering (ICPE)*.

A. Bauer, V. Lesch, L. Versluis, A. Ilyushkin, N. Herbst, and S. Kounev (2019). “Chamulteon: Coordinated Auto-Scaling of Micro-Services”. In: *Proceedings of the 39th IEEE International Conference on Distributed Computing Systems (ICDCS)*.

M. Straesser, A. Bauer, R. Leppich, N. Herbst, K. Chard, I. Foster, and S. Kounev (2023). “An Empirical Study of Container Image Configurations and Their Impact on Start Times”. In: *Proceedings of the 23rd IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGRID)*. To be appear.

A. Bauer, M. Straesser, M. Leznik, L. Beierlieb, M. Hadry, N. Hudson, K. Chard, S. Kounev, and I. Foster (2023). “Searching for the Ground Truth: Assessing the Similarity of Benchmarking Runs”. In: *Companion of the 14th ACM/SPEC International Conference on Performance Engineering (ICPE)*.

A. Bauer, M. Züfle, N. Herbst, S. Kounev, and V. Curtef (2020). “Telescope: An Automatic Feature Extraction and Transformation Approach for Time Series Forecasting on a Level-Playing Field”. In: *Proceedings of the 36th IEEE International Conference on Data Engineering (ICDE)*.

A. Bauer, M. Züfle, J. Grohmann, N. Schmitt, N. Herbst, and S. Kounev (2020). “An Automated Forecasting Framework based on Method Recommendation for Seasonal Time Series”. In: *Proceedings of the 11th ACM/SPEC International Conference on Performance Engineering (ICPE)*.

CERTIFICATES

Certificate Leadership (University of Würzburg)

October 2022

Certificate Academic Teaching (State of Bavaria)

November 2020

Certificate Academic Teaching (University of Würzburg)

December 2019

VOLUNTARY ACTIVITIES

Pen Pal Program

Chicago, United States

OFFICE OF DIVERSITY AND INCLUSION UNIVERSITY OF CHICAGO

since February 2023

Mentoring for students

Würzburg, Germany

ALUMNIVEREIN UNIVERSITY OF WÜRZBURG

November 2019 — October 2022

Supervision of scouts

SCHWARZER HAUFEN WÜRZBURG (BdP e.V.)

Volunteer tutoring

NACHBARSCHAFTSHILFE GROMBÜHL

Student council

FRIEDRICH-FISCHER SCHULE

Volunteer fire brigade

FFW HORHAUSEN e.V.

Würzburg, Germany

July 2019 — February 2020

Würzburg, Germany

September 2013 — September 2014

Schweinfurt, Germany

September 2010 — August 2011

Horhausen, Germany

April 2003 — August 2009

LANGUAGES

German Mother tongue

English Business fluent