Dr. Fabian Trautsch

Curriculum Vitae





Profile

- Solution Architect with an interest in data science and machine learning
- Received top grades and several awards for my work from industry and academia
- High self-motivation and independent working style

Education

- 2015 2019 Dr. rer. nat. in Computer Science, University of Göttingen, Grade: Summa cum laude PhD Thesis: "An Analysis of the Differences between Unit and Integration Tests"
- 2013 2015 M.Sc in Applied Computer Science, University of Göttingen, Grade: 1,1 Master's Thesis: "A Platform for the Integration of Repository Mining and Software Analytics through Big Data Technologies"
- 2010 2013 B.Sc. in Applied Computer Science, University of Göttingen, Grade: 1,4 Bachelor's Thesis: "User-oriented Usability Evaluation of a Research Website"

Experience

Professional Experience

09/2024 - Solution Architect, Sartorius, Göttingen

- now Holistic design and implementation of software solutions
 - Creation of technical solution concepts based on business requirements
 - Transition of an old legacy monolith to a modern software architecture
 - Collaboration with product owners, product managers, developers, and system architects to develop technological solutions and support their implementation
- 01/2022 System Architect, Sartorius, Göttingen
 - 09/2024 Responsible for the architecture, design, and technical implementation of several software components used in the pharmaceutical sector
 - Technical implementation based on C#/.NET in the backend and React in the frontend
 - Close collaboration with product owners, product managers, and developers to implement functional and non-functional requirements
 - Presentation of architecture and solutions to stakeholders

09/2021 – Full-Stack Software Developer, Sartorius, Göttingen

- 01/2022 Development of a web application with the following technologies:
 - React (incl. Redux) front-end
 - C#/.NET backend

01/2020 - IT Application Specialist for Cross-Functional Systems, Sartorius, Göttingen

- 08/2021 Responsible for the introduction of local and global cross-functional systems including
 - user requirements assessment
 - creation of the solution design
 - coordination of the implementation between different stakeholders
 - coordination of the training of key-users
 - IT project management
 - IT process improvement

03/2019 - Co-Founder of SimPaFee UG, Göttingen

- now Backend design and development
 - Coordination of API development

10/2015 - Research Associate, Institute of Computer Science, Göttingen

- 12/2019 Research in software testing, mining software repositories, and software analytics
 - Development of research prototypes
 - Presentation of research results at international conferences
 - Support of university courses, e.g., Software Engineering, Data Science and Big Data Analytics, Practical Course on Software Testing
 - Test supervisor for ISTQB Certified Tester
 - Mentoring of Bachelor's and Master's thesis
 - Conception and writing of research proposals

International Experience

- 09/2016 Research stay in China, Beijing and Shanghai
 - 10/2016 Research stay at two different universities within China:
 - Tsinghua University, Beijing, in the research group of Professor Jie Tang
 - Fudan University, Shanghai, in the research group of Professor Yanchun Zhang

Awards and Certificates

- 06/2019 Winner of the Lift-Off Start-Up Competition, Göttingen
 - First place in the Lift-Off start-up competition with our start-up "BarBQ".
- 09/2018 Participation in the 5th European Data Science Summer School, Saarbrücken
 Summer school covering different topics from the field of data science, e.g., Databases for Big Data,
 Support Vector Machines and Neural Networks, Deep Learning, Reinforced Learning.
- 08/2018 IREB Certified Professional for Requirements Engineering, Foundation Level
- 03/2017 MINT-Award Informatik 2016, Best Master's thesis of all submissions Awarded by the MINT-Initiative Germany.
- 05/2015 **ACM SIGSOFT Distinguished Paper Award**, *MSR 2016*, *Austin (Texas)*, *USA*For the paper: "Addressing Problems with External Validity of Repository Mining Studies Through a Smart Data Platform".
- 03/2014 ISTQB Certified Tester, Foundation Level
- 03/2014 EMC Proven Professional, Data Science Associate (EMCDSA)
- 06/2009 Award for outstanding social commitment

Awarded by the district administrator of Lower Saxony.

Projects

SmartSHARK, Software Mining and Smart Data Analytics Platform

- Design and development of a platform, which supports the collection and analysis of data mined from software repositories.
- Utilizes: Apache Spark, Django, IBM LSF (HPC), Java, MongoDB, Python

COMFORT, Framework for the analysis of software tests

- Design and development of a framework for the metric collection from software tests.
- Utilizes: Coverage Collection, Instrumentation, Java, MongoDB, Mutation Testing, Reflection, Python

BarBQ, APP that supports the search for bars in Göttingen

- Design and development of a backend and website that works together with the APP frontend.
- Utilizes: Django, GraphQL, HTML, Javascript, JQuery, MariaDB, Python

BoardGameCatalog, APP for the indexing of board games

- Design and development of a backend, website, and Android APP.
- Utilizes: Android, HTML, Java, Javascript, JQuery, MySQL, PHP, REST, Yii2

Languages

German Mothertongue

English Advanced

References

Prof. Dr. Jens Grabowski, Professor at the Institute of Computer Science, Göttingen, Head of Software Engineering for Distributed Systems

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Dr. Steffen Herbold, Post-Doc at the Institute of Computer Science, Göttingen, Research Focus Leader for Software Engineering and Data Science

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Publications

Book Chapters

[1] Steffen Herbold, **Fabian Trautsch**, Patrick Harms, Verena Herbold, and Jens Grabowski. Experiences with replicable experiments and replication kits for software engineering research. *Advances in Computers*, 113, 2019.

Journals

- [1] Steffen Herbold, Aynur Amirfallah, **Fabian Trautsch**, and Jens Grabowski. A systematic mapping study of developer social network research. *Journal of Systems and Software*, 171:110802, 2021.
- [2] **Fabian Trautsch** Steffen Herbold, and Jens Grabowski. Are unit and integration test definitions still valid for modern java projects? an empirical study on open-source projects. *Journal of Systems and Software*, 159:110421, 2020.
- [3] **Fabian Trautsch** Steffen Herbold, Alexander Trautsch. On the feasibility of automated prediction of bug and non-bug issues. *Empirical Software Engineering*, 25(6):5333–5369, 2020.
- [4] **Fabian Trautsch**, Steffen Herbold, Philip Makedonski, and Jens Grabowski. Addressing problems with replicability and validity of repository mining studies through a smart data platform. *Empirical Software Engineering*, 23(2):1036–1083, 2018.

Peer-Reviewed Conference Papers

- [1] **Fabian Trautsch**, Steffen Herbold, Benjamin Ledel, and Jens Grabowski Alexander Trautsch. The smartshark ecosystem for software repository mining. In *Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: Companion Proceedings*, pages 25–28, 2020.
- [2] **Fabian Trautsch**. Reflecting the adoption of software testing research in open-source projects. In *IEEE International Conference on Software Testing, Verification and Validation (ICST), PhD Symposium*, pages 565–566. IEEE, 2017.
- [3] **Fabian Trautsch** and Jens Grabowski. Are there any unit tests? an empirical study on unit testing in open source python projects. In *IEEE International Conference on Software Testing*, *Verification and Validation (ICST)*, pages 207–218. IEEE, 2017.
- [4] **Fabian Trautsch**, Steffen Herbold, Philip Makedonski, and Jens Grabowski. Adressing problems with external validity of repository mining studies through a smart data platform. In *Proceedings of the 13th International Conference on Mining Software Repositories*, pages 97–108. ACM, 2016.
- [5] **Fabian Trautsch**. Evaluating the combination of two user-oriented usability evaluation methods: Thinking-aloud and questionnaires. In *Gl-Jahrestagung*, page 2485, 2014.