

Dr. Fabian Trautsch

Curriculum Vitae

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Profile

- Software engineer 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

- 09/2021 – **Full-Stack Software Developer**, SARTORIUS, Göttingen
now ● 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 Mother tongue
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. Addressing 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 *GI-Jahrestagung*, page 2485, 2014.