Curriculum Vitae

Felix Pauck

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Social Media

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Personal Information

Birthday:	10/11/1988
Birthplace:	Tönisvorst, Germany
Citizenship:	German

Education & Career

since 08/2023	**Static Code Analysis Developer** at SonarSource (https://www.sonarsource.com)
03/2023 – 06/2023	**Post-Doc** at Paderborn University
08/2017 – 03/2023	**Doctoral (PhD)** at Paderborn University *Degree:* Dr. rer. nat. (summa cum laude), Computer Science *Thesis:* Cooperative Android App Analysis (1.0)
10/2014 – 06/2017	**Master** at Paderborn University *Degree:* M. Sc., Computer Science (1.3) *Thesis:* Cooperative Static Android App Analysis (1.3)
10/2009 – 10/2014	**Bachelor** at Paderborn University *Degree:* B. Sc., Computer Science (2.2) *Thesis:* Generierung von Eigenschaftsprüfern in einem Hardware/Software-Co-Verifikationsverfahren (1.0)
01/2009 – 09/2009	Basic military service German Federal Armed Forces *Qualification:* Obergefreiter / Private First Class
09/2008	Aptitude Assessment Aerial service (Phase III) German Federal Armed Forces
04/2008	Officer Suitability German Federal Armed Forces
08/1999 – 06/2008	Secondary School, Luise von Duesberg Gymnasium (Kempen) *Degree:* Abitur / High-School Diploma (2.9, Majors: Physics, Biology)
08/1995 – 06/1999	Elementary School, Gemeinschafts Grundschule Tönisberg (Kempen)

Skills

Languages

- **German:** native,
- **English:** full professional proficiency (written and spoken).

Focus Areas

- **Program / Software Analysis:** Static, Dynamic, Cooperative
- **Software Engineering:** Architecture, Project management, Development, Maintenance, Programming, ...
- **Research:** Scientific writing, Literature reviewing, ...

Programming & Tooling

- **PLs:** Java, JavaScript, TrueScript, PHP, HTML+CSS, SQL, C++, ...
- **IDEs:** IntelliJ, Eclipse, Android Studio, VSC, ...
- **Editing:** LaTeX, MS Stack (Powerpoint, Excel, ...), Photoshop, 3DS Max, ...
- **OSs:** Android, Windows, Linux (preferably Debian)
- **Other:** Git, Svn, Maven, Gradle, Ant, Bash, Batch, React, Rest, ...

Other

- **Driving License:** Class B

Selected Projects

The Android App Analysis Query Language (**AQL**) is a domain-specific language that allows anyone to interact with arbitrary static and dynamic analysis tools. It is used to realize the concepts of cooperative analysis and automatic and reproducible benchmarking. The language also embodies the basis of the associated system, the AQL-System. (https://FoelliX.github.io/AQL-System)

The Android Merge Tool (**AMT**) does what the name suggests: it merges arbitrary Android apps into a single merged app. Initially, it was developed to allow analysis tools to analyze multiple apps at once, such that inter-app properties can be handled just like intra-app properties. However, due to frequent requests and the activity at Github it seems to be useful in other scenarios as well. (https://FoelliX.github.io/AMT)

Jicer is a static Android app slicer that was developed to be used in cooperative analysis context. Therefore, it is unique as it is the only existing slicer for Android that allows to output analyzable or executable slices (sliced .apk files). (https://FoelliX.github.io/Jicer)

TaintBench is, in the first place, a real-world benchmark suite that allows you to effectively evaluate the performance of analyses. It allowed us to gain analysis tool insights that were hidden for years. (https://TaintBench.github.io)

Research Awards

2018 ESEC/FSE
SIGSOFT Distinguished Paper Award
(Publication: Do Android Taint Analysis Tools Keep Their Promises?)

2022 SCAM
Best Research Paper Award
(Publication: Benchmark Fuzzing for Android Taint Analyses)

Academic Service

Program Committee Member

- MOBILESoft 2023
- SecDev 2023

Artifact Evaluation Committee Member

- iFM 2022
- FASE 2022
- ISSTA 2021
- ECOOP 2020

Invited Talks

BenchWork at ECOOP 2019
(Topic: Android Taint-Analysis Benchmarks: Past, Present and Future)

Publications

2022 – 2023

- Richter, C., Haltermann, J. F., Jakobs, M.-C., Pauck, F., Schott, S., & Wehrheim, H. (2023). Are Neural Bug Detectors Comparable to Software Developers on Variable Misuse Bugs? *37th IEEE/ACM International Conference on Automated Software Engineering*. (https://doi.org/10.1145/3551349.3561156)
- Schott, S., & Pauck, F. (2023). Benchmark Fuzzing for Android Taint Analyses. *2022 IEEE 22nd International Working Conference on Source Code Analysis and Manipulation (SCAM)*. (https://doi.org/10.1109/scam55253.2022.00007)
- Pauck, F. (2023). Scaling Arbitrary Android App Analyses. *37th IEEE/ACM International Conference on Automated Software Engineering*. (https://doi.org/10.1145/3551349.3561339)
- Pauck, F. (2023). *Cooperative Android App Analysis*. Paderborn University. (https://doi.org/10.17619/UNIPB/1-1698)
- Wehrheim, H., Platzner, M., Bodden, E., Schubert, P., Pauck, F., & Jakobs, M.-C. (2023). Verifying Software and Reconfigurable Hardware Services. In C.-J. Haake, F. Meyer auf der Heide, M. Platzner, H. Wachsmuth, & H. Wehrheim (Eds.), *On-The-Fly Computing -- Individualized IT-services in dynamic markets* (Vol. 412, pp. 125–144). Heinz Nixdorf Institut, Universität Paderborn. (https://doi.org/10.5281/zenodo.8068583)

2020 – 2021

- Luo, L., Pauck, F., Piskachev, G., Benz, M., Pashchenko, I., Mory, M., Bodden, E., Hermann, B., & Massacci, F. (2021). TaintBench: Automatic real-world malware benchmarking of Android taint analyses. *Empirical Software Engineering*. (https://doi.org/10.1007/s10664-021-10013-5)
- Pauck, F., & Wehrheim, H. (2021). Jicer: Simplifying Cooperative Android App Analysis Tasks. *2021 IEEE 21st International Working Conference on Source Code Analysis and Manipulation (SCAM)*. (https://doi.org/10.1109/scam52516.2021.00031)
- Jakobs, M.-C., Pauck, F., Platzner, M., Wehrheim, H., & Wiersema, T. (2021). Software/Hardware Co-Verification for Custom Instruction Set Processors. *IEEE Access*. (https://doi.org/10.1109/ACCESS.2021.3131213)

2018 – 2019

- Pauck, F., & Zhang, S. (2019). Android App Merging for Benchmark Speed-Up and Analysis Lift-Up. In *2019 34th IEEE/ACM International Conference on Automated Software Engineering Workshop (ASEW)*. (https://doi.org/10.1109/asew.2019.00019)
- Pauck, F., & Wehrheim, H. (2019). Together Strong: Cooperative Android App Analysis. *Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering*, 374–384. (https://doi.org/10.1145/3338906.3338915)
- Isenberg, T., Jakobs, M.-C., Pauck, F., & Wehrheim, H. (2019). When Are Software Verification Results Valid for Approximate Hardware? *Tests and Proofs - 13th International Conference, {TAP} 2019, Held as Part of the Third World Congress on Formal Methods 2019, Porto, Portugal, October 9-11, 2019, Proceedings*, 3–20. (https://doi.org/10.1007/978-3-030-31157-5_1)
- Pauck, F., Bodden, E., & Wehrheim, H. (2018). Do Android taint analysis tools keep their promises? In *Proceedings of the 2018 26th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering - ESEC/FSE 2018*. ACM Press. (https://doi.org/10.1145/3236024.3236029)
- Isenberg, T., Jakobs, M.-C., Pauck, F., & Wehrheim, H. (2018). Validity of Software Verification Results on Approximate Hardware. *IEEE Embedded Systems Letters*, 22–25. (https://doi.org/10.1109/LES.2017.2758200)

2017 & before

- Pauck, F. (2017). *Cooperative static analysis of Android applications*. Universität Paderborn.
- Jakobs, M.-C., Töws, M., & Pauck, F. (2016). PAndA 2: Analyzing Permission Use and Interplay in Android Apps (Tool Paper). In T. E. Ishikawa F, Romanovsky A (Ed.), *Workshop on Formal and Model-Driven Techniques for Developing Trustworthy Systems*.
- Pauck, F. (2014). *Generierung von Eigenschaftsprüfern in einem Hardware/Software-Co-Verifikationsverfahren*. Universität Paderborn.

Trivia

Gamer / Developer

When I follow my passion, playing computer games and developing, I often go by my nickname FoelliX.

Kegelklub

Since 2007 one of my regularly practiced hobbies is "Kegeln". It is definitely not like Bowling but the best description in English is: the german version of bowling with nine instead of ten pins and no holes in the ball. For about a decade, we are now using the app and website I created to keep track of our stats.

Further Hobbies

In particular in summer I enjoy bbq-ing and smoking a lot. Using the self-made Wifi-thermometers of course.
Recently, I bought and refurbished a "Mofa" (small moped). In our fast world, a "Mofa" allows you to slow down and relax.