

Dr. Andreas Weichslgartner

Resume

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Experience

- 04.2017- **Developer/Technical Security Expert**, *Cariad SE/Audi AG*, Ingolstadt, Germany.
now Designed and implemented an embedded machine-learning-based intrusion detection system (IDS) prototype in **C/C++/Tensorflow/Scikit-Learn/Numpy** for detecting anomalies in POSIX systems and automotive networks (**CAN, Ethernet**). Performed data analysis of network data, Linux audit files, security risk analysis in **Python/Pandas**. Is an integral developer in an **agile team (SCRUM)** to design and implement the **series automotive software** of IDS for the upcoming infotainment system of the VW group (**Android & Embedded Linux**). Pushed continuous fuzz testing and security testing inside Cariad as technical expert. Worked on research projects like ML-based **fuzzing**, **adversarial attacks on Lidar**, or **embedded post quantum cryptography**. Was involved in several penetration-test activities and held internal workshops (e.g., secure coding, fuzzing, ML in security), gave talks (e.g., [ELIV 19](#)), and participated in panel discussions (e.g., Cariad Security Summit). Supervised PhD/Master students and interns.
- 09.2010- **Researcher at the Department of Hardware/Software Co-Design**, *Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)*, Erlangen, Germany.
04.2017 Conducted research on optimization, real-time/embedded systems, security, software (**Java, Python, C**) and hardware (**VHDL**) development. Collaborated in a transregional research center with 60 international researchers on future many-core architectures. (Co)authored various peer-reviewed research papers at international conferences (23 papers, e.g., CODES+ISSS, DATE, DAC), leading journals (9 articles, e.g., ACM TECS, IEEE TCAD), and a [book](#). Acted as a member of a program committee (ReConFig) and reviewer for several conferences/journals. Supervised students' theses and was involved in teaching (e.g., foundations of technical computer science, design of interactive embedded systems).
- 09.2009- **Internship: Embedded Linux and Wafer Testing**, *Infineon Technologies AG*, Regensburg, Germany.
01.2010 Developed an embedded Linux solution for intrinsic data monitoring of wafer testing machines. Included a C program for real-time logging/filtering of raw machine data and a web interface/dashboard.
- 2003-2004 **Civil Service (Zivildienst)**, *Kreiskrankenhaus Kelheim*, Kelheim, Germany.

Education

- 2010-2017 **PhD (Dr.-Ing.) in Computer Science at the Department of Hardware/Software Co-Design**, *Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)*, Erlangen, Germany.
Thesis Application Mapping Methodologies for Invasive NoC-Based Architectures (Grade 1.1)
- 2004-2010 **Diploma (Dipl.-Ing.) in Information and Communication Technology**, *Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)*, Erlangen, Germany.
GPA 1.3 (very good)

Software Skills

- Languages ○ Python (experienced), C++ (experienced), C (experienced), Java (intermediate), VHDL (Familiar)
Technology ○ Git (experienced), CI/CD: GH Actions, Gitlab, Jfrog (experienced), Docker (intermediate),

Selected Publications

- Andreas Weichslgartner: Embedded Intrusion Detection based on AI. In Proceedings of Electronics In Vehicles (ELIV), pp. 1-10. VDI. 2019.
- Andreas Weichslgartner, et al.: Invasive Computing for Mapping Parallel Programs to Many-Core Architectures. Pages 1-185. Springer Singapore. 2018.
- Andreas Weichslgartner, et al.: Design-Time/Run-Time Mapping of Security-Critical Applications in Heterogeneous MPSoCs. In Proceedings of SCOPES, pp. 153-162. 2016.

Languages

German (native), English (full professional proficiency), Portuguese (limited working proficiency)

Links

[Google Scholar](#), [Blog](#), [Github](#), [Linkedin](#),