

Dr. Andreas Weichslgartner

Resume

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Experience

- 07.2020-
now **Senior Technical Security Engineer**, *CARIAD SE*, Nuremberg, Germany.
Works in SDV-Hub, focusing on security testing across the software development lifecycle and contributing to the development of a key vehicle management system in **Rust**. Played a pivotal role in vulnerability management and provided technical expertise for the rollout of **SBOMs**. Advanced crypto-agility initiatives by creating custom static analysis tools and developing a **CBOM** generation proof of concept. Served as the lead developer and architect in an agile team to design and implement series-production automotive software for infotainment IDS in **C++** on PPE/PPC platforms. Championed continuous **fuzz testing** and integrated security testing methodologies at CARIAD, acting as a technical expert. Held workshops (e.g., secure coding, fuzzing, ML in security), gave talks (e.g., [SoS'24](#), [VulnCon'24](#), [ELIV'23](#), [FUZZCON'22](#)), and participated in panel discussions (e.g., CARIAD Security Summit). Supervised PhD/Master students and interns.
- 04.2017-
06.2020 **Developer**, *Audi AG/Audi Electronics Venture GmbH*, Ingolstadt, Germany.
Designed and implemented an ML-based embedded intrusion detection system (IDS) prototype in **C/C++** for detecting anomalies in POSIX systems and automotive networked communication (**Ethernet, CAN**). Performed data analysis of automotive networks, Linux audit files, security risk analysis in **Python/Pandas**. Generated machine learning models for anomaly detection with **Tensorflow/Scikit-Learn/Numpy**. Worked on research projects like ML-based **fuzzing**, [adversarial attacks on LiDAR](#), or **embedded post quantum cryptography**.
- 09.2010-
04.2017 **Researcher at the Department of Hardware/Software Co-Design**, *Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)*, Erlangen, Germany.
Conducted research on optimization, real-time/embedded systems, security, software (**Java, Python, C**) and hardware (**VHDL, SystemVerilog**) 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 and leading journals (e.g., [CODES](#), DAC, ACM TECS, IEEE TCAD), and a [book](#). Acted as a member of a program committee and reviewer for several conferences and journals. Supervised students' theses and was involved in teaching.
- 09.2009-
01.2010 **Internship: Embedded Linux and Waver Testing**, *Infineon Technologies AG*, Regensburg, Germany.
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)**, *Kreis Krankenhaus 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.

Software Skills

- Languages ○ Python (experienced), C++ (experienced), C (intermediate), Rust (intermediate), Java (intermediate)
Technology ○ Git, Github Actions, Gitlab CI, Docker, Jfrog

Languages

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

Interests and Hobbies

Cycling, Traveling, Programming (e.g., Advent of Code), Climbing, Music, Reading, Art, Cooking

Links

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