Dr. Andreas Weichslgartner

Resume

✉ *weichslgartner@gmail.com*

Experience

04.2017-now **Developer/Technical Security Expert**, *Cariad SE/Audi AG*, Ingolstadt, Germany.
Designed and implemented an 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**. Is an integral developer in an **agile team (SCRUM)** to design and implement the **series automotive software** of IDS. Pushed continous fuzzing 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 workshops (e.g. secure coding, fuzzing, ML in security), gave talks (e.g., ELIV), and participated in panel discussions (e.g., Cariad Security Summit). Supervised PhD/Master students and interns.

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 (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 and journals. Supervised students' theses and was involved in teaching (e.g., foundations of technical computer science, design of interactive embedded systems).

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)**, *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)

Thesis Decentralized Embedding of Communication Topologies onto Networks-on-Chip (Grade 1.0)

Software Skills

Languages
- Python (experienced), C++ (experienced), C (intermediate), Java (intermediate), VHDL (Familiar)

Technology
- Github Actions, Gitlab CI, Docker

Soft Skills

Inter-cultural communication, Gender communication, Scientific writing, Self and time management, Agile teamwork

Languages

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

Interests and Hobbies

Traveling, Programming (e.g., Advent of Code), Climbing, Music (playing guitar/bass, concerts), Reading, Art, Cooking

Links

Google Scholar, Blog, Github, Linkedin,