Chair of Security in Information Technology
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Forschungspraxis, Master's Thesis, Bachelor's Thesis

Needles in Haystacks

In a world of multinational production chains, hardware trojans inserted by untrusted third parties are an emerging threat for the security of integrated circuits.

Detection methods have come a long way, but still cannot archieve good performance in realistic scenarios.

During this thesis, you will implement and improve an existing hardware trojan detection method.

Prerequisites

The following list of prerequisites is neither complete nor binding, but shall give you an idea, what the topic is about.

- Sufficient knowledge in a High-Level Programming language such as python, because machine learning and reverse engineering tools build on this
- Basic to intermediate knowledge of a hardware description language such as vhdl or verilog for understanding the trojan samples
- Basic knowledge in design/architecture of hardware design to understand trojan location and insertion.

Contact

If you are interested in this topic, don't hesitate to ask for an appointment via

alex.hepp@tum.de

Please include a grade report and a CV, so I can evaluate different focus areas to fit your experience.

Advisors

Alexander Hepp