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

Bachelor's Thesis, Assistant (Student), Interdisciplinary Project

Developing tools for chip reverse engineering

In reverse engineering of digital circuits, automation helps the researcher to cope with the complexity of input data. Many tools have to be tailored to the specific research focus and help to use standard tools made for IC design.

For example, the researcher might receive a netlist synthesized with a cell library that is not available. In this case, it would be necessary to reverse-engineer the library, eg. based on the cell and pin names, and create a bare dummy-library that allows to parse the netlist with general purpose synthesis tools.

In this engineering internship, you'll work closely with a researcher in the reverse engineering field and create well-designed automation tools for netlist reverse engineering.

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 any High-Level Programming language such as python, c, c++, rust, perl, etc.
- A very basic knowledge of chip design in order to know what data you are dealing with
- Creativity and interest for details in oder to create a good concept of the tool you want to implement

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