פרויקט באבטחת מידע 236349

אביב תשע"ו

**Cisco -**

**Hardware Reverse Engineering &**

**Automated Visual Reading of memories**

Hardware reverse engineering is a complex multi-disciplinary endeavor. In this project we will read the memory content of a chip from Scanning Electron Microscope (SEM) images. We will concentrate on metal ROM.

By carefully delayering the chip we reveal the metal connections that store the bits of the memory, and acquire very large B&W SEM images. As there are millions of bits to be read some automation is necessary. The goal of this project is to implement a software system that extracts the memory contents from the images.

The project has two stages: First develop GUI for defining the structure of the memory and other parameters that will govern the image processing. Second use image processing to extract the memory contents. The output is a file of bit values, the confidence level of each bit and additional statistics.

Relevant fields:

* Hardware reverse engineering.
* Hardware security.
* Image processing.
* Graphical user interface (GUI) design.

Pre-requisites:

* Knowledge in Signal and Image processing is an advantage.
* Some understanding of GUI development in Windows is needed.

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