Algorithms & Circuits for Hardware Security

Number of students: 1 to 4
Estimated period of project: 2 Semesters (EE and CE)

Description:
Security is a key challenge for today's distributed computing and communication systems. This project aims to develop algorithm and/or circuit topologies to improve the security of modern integrated circuits against different types of attacks. A very systematic approach will be proposed to both assess and improve performance of integrated circuits in presence of different types of attacks.

Students involved in this project will learn about security (especially hardware security), algorithms to attach and protect systems, develop circuit topologies which are more reliable and robust, and model large scale systems using high-level description languages such as C and Python. One of the main aspects of this project is to encourage students to work as part of a bigger team, collaborate, learn, and move forward faster.

Background: Students with a good background on computer engineering, C or Python coding, algorithms, and/or circuits are encourage to apply. Also, students need to be self motivated, active, and eager to learn. Good knowledge on relevant Software Tools (e.g. Matlab, Python, C, SPICE) is a plus.

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