Introduction to the Course

Cryptographic Hardware for Embedded Systems

ECE 3894

Fall 2019

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Georgia Institute of Technology

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Introduction

• Logic design
  • Very Large Scale Integration (VLSI) digital circuits
  • System-on-a-Chip (SoC)
    • Microprocessors (software)
    • Reconfigurable logic
    • Custom logic

• Cryptography
  • Security of communications
  • Trust of sources and authorship
  • Mathematical basis and relationship to hardware (logic) design

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Topics

• Cryptography
• Authentication
• Algorithmic attacks
• Power analysis attacks
• Cryptographic hardware
• Digitals systems test
• Supply chain attacks
• Hardware attacks
Course Organization

• Lecture T/Th 1:30pm-2:45pm
  • Will attempt to record lectures (not guaranteed to be successful!)
  • Molecular Science and Engineering (MSE) G021

• Grading policy
  • Homeworks 20%
  • 1st Midterm 15%
  • Labs 15%
  • 2nd Midterm 15%
  • Final Exam 35%

• Website will contain lecture notes, homeworks, labs and other info
  • http://mooney.gatech.edu/Courses/ECE3894

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Required Textbook

Prerequisites

- ECE 2031 and ECE 2040
Canvas

- Grades
- Announcements
- Media Gallery
Academic Integrity

• Please refer to slide deck on this topic