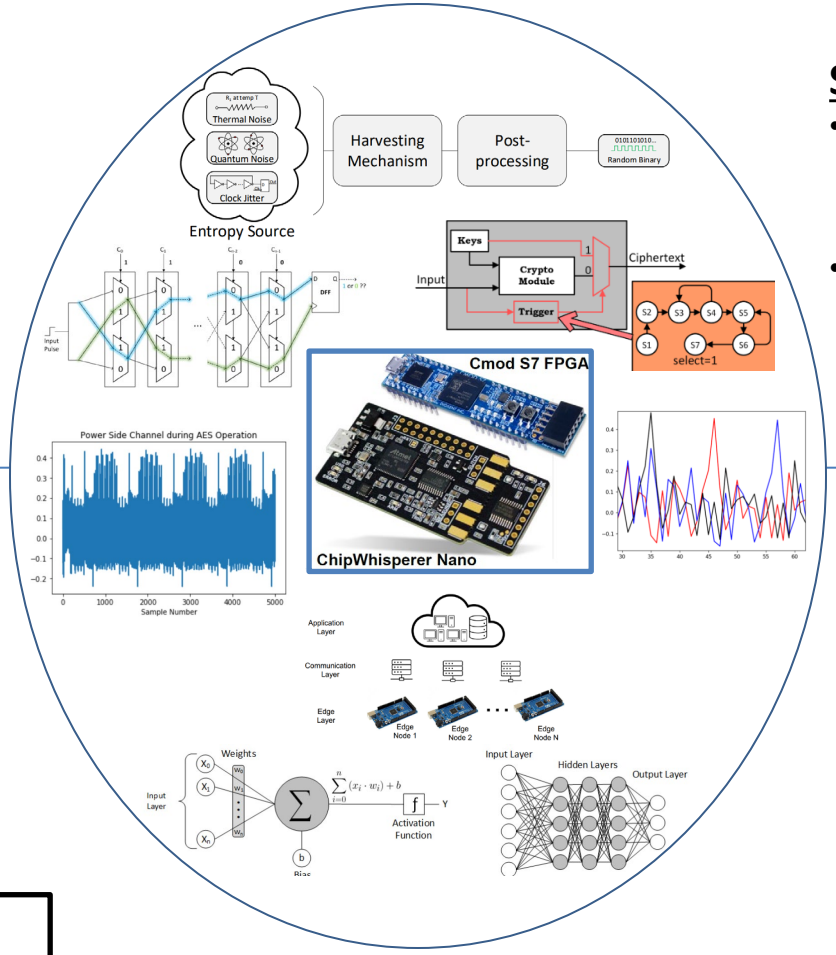
SaTC: EDU: Improving Student Learning through Competitive Embedded System Security Challenges

USF UNIVERSITY OF SOUTH FLORIDA COLLEGE OF ENGINEERING

Challenges:

- HW security education can be expensive, requiring specialized equipment and expensive development boards
- New pedagogical techniques may improve student learning in hands-on laboratory courses



Solution:

- Develop practical, low-cost course modules supported by inexpensive COTS development boards
- Test the impact of course module gamification in a multi-year ABAB study

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Scientific Impact:

- New HW security curriculum that leverages low-cost, accessible hardware and open-source software
- Improvement of pedagogical techniques for hands-on hardware labs

Broader Impact and Broader Participation:

- Training a new generation of students who have a deeper understanding of computer security from the hardware level up
- Wide distribution of open-source HW security course materials
- Applications to other engineering disciplines where students learn through hands-on laboratory experiments