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COLLOQUIUM
W375 Westgate Building
Thursday, September 27, 10:00-11:00 am
By: Nolen Scaife, University of Florida
Title: Designing Robust Defenses for Modern Payment Systems

Host: Patrick McDaniel

Abstract: Credit, debit, and prepaid cards have dominated the payment landscape for decades, empowering the economy. Unfortunately, these legacy systems were not designed for today's adversarial environment, and deployment of new technologies is slow, expensive, and difficult to adopt. In this talk, I discuss new ways of identifying and protecting against real threats to existing payment systems. First, we will explore the types of skimmers found in New York City and how skimmers acquire sensitive card data; we use properties of these devices to design the Skim Reaper, the first external skimmer detection system. Successful attacks allow counterfeit cards to be created, however; I will then demonstrate how the most common way to make these cards introduces artifacts that can also be detected. Finally, we will examine the tools available to consumers to detect skimmers and show how consumers are ill-equipped to solve this issue. By using attackers' own technology against them, these attacks can effectively and inexpensively be reduced.

Bio: Nolen Scaife is a PhD candidate at the University of Florida in the Florida Institute for Cybersecurity (FICS) Research. His primary research interests are payment systems security and network security with a focus on real-world impact. He has co-founded two startups, CryptoDrop and Skim Reaper, from his research. Nolen has over ten years of industry security experience in multiple sectors including telecommunications and retailing.