Carnegie Mellon University
CyLab

CyLab Research Guide & Highlights
2013-2014
CyLab Leans Forward On Its 10th Anniversary

This year, Carnegie Mellon University CyLab celebrates its 10th Anniversary.

The past has been a whirlwind decade marked by significant contributions of 21st Century cyber security and privacy. But we are leaning forward into even greater contributions to the evolving futures of both these vital fields.

This CyLab Highlights and Research Guide provides a glimpse into our faculty’s current work, and also offers a quick glance back at some of their recent activities and accomplishments. The hyperlinks provided in both the alphabetized listing of research projects and the timeline lead to detailed information available via CyLab Online.

A Glimpse At What CyLab Researchers Are Working On

An Experiment in Hiring Discrimination via Online Social Networks

Lead Researchers: Alessandro Acquisti and Christina Fong

Are There Evolutionary Roots To Privacy Concerns?

Lead Researcher: Alessandro Acquisti
Co-researchers: Laura Brandimarte and Jeff Hancock

Automatic Facial Landmarking

Lead Researcher: Marios Savvides

Behavior-based Mobility Research

Lead Researchers: Joy Zhang and Patrick Tague

Biometrics Identification on Robots and Unmanned Aerial Vehicles (UAVs)

Lead Researcher: Marios Savvides

Compositional Security

Lead Researcher: Anupam Datta
Co-Researchers: Sagar Chaki, Limin Jia, and Amit Vasudevan

(Headlines and hyperlinks to CyLab News from January 2012 to October 2013)

CyLab Research, Again, Has Big Impact on IEEE Symposium on Security & Privacy. Seven papers authored or co-authored by CyLab researchers.

Annual CyLab Symposium on Usable Privacy and Security (SOUPS) held in Washington, D.C.

CyLab Researchers To Unveil New Smartphone App for Secure Messaging

CyLab Hosts Panel Discussion and Screenings of CODE 2600, A New Feature Length Documentary on Cyber Crime and Security

9th Annual CyLab Partners Conference Highlights Compelling Research on Vital Issues in Cybersecurity and Privacy

CyLab’s Alessandro Acquisti and Fellow CMU Researcher Christina Fong Win IAPP Privacy Law Scholars Conference Award
Comprehensive Security & Privacy for Next Generation Mobile Networks
Lead Researcher: Patrick Tague

Context-Aware Scalable Authentication: Using Passive Multi-factor Sensing to Facilitate Authentication
Lead Researcher: Jason Hong

Continuous Authentication
Lead Researcher: Marios Savvides

Cross-Layer Self-Configuration for Secure and Resilient Networking
Lead Researcher: Patrick Tague

CrowdScanning: Using Crowdsourcing and Static Analysis to understand the Privacy Issues in Smartphone Apps
Lead Researcher: Jason Hong
Co-Researcher: Norman Sadeh

Cyber-Security Threats to Industrial Control Systems
Lead Researcher: Virgil Gligor
Co-Researcher: Soo Bum Lee

Deterrence via Intermittent Auditing
Lead Researchers: Anupam Datta
Co-Researcher: Virgil Gligor

Evaluating and Controlling Personal Privacy in Smart Environments
Lead Researcher: Patrick Tague
Co-Researcher: Anthony Rowe
Gort: An analysis tool for understanding the privacy and security behaviors of smartphone apps

Lead Researcher: Jason Hong

Inference-Based Adaptation Techniques for Next Generation Jamming and Anti-Jamming Capabilities

Lead Researcher: Patrick Tague

Information and Influence Propagation in Social Networks

Lead Researchers: Osman Yagan and Virgil Gligor

Long Range Iris Acquisition and Recognition

Lead Researcher: Marios Savvides

Mobile Platform Security

Lead Researchers: Lujo Bauer and Limin Jia

Next Generation Available Internet

Lead Researchers: Virgil Gligor and Adrian Perrig
Co-Researcher: Soo Bum Lee
Online Crime Economics
Lead Researcher: Nicolas Christin
Co-Researcher: Nektarios Leontiadis, Kyle Soska, and Tim Vidas

Passwords
Lead researcher: Lujo Bauer
Co-Researchers: Lorrie Cranor and Nicolas Christin

Password-Composition Policies and the Security and Usability of Passwords
Lead Researchers: Lujo Bauer, Nicolas Christin, and Lorrie Cranor

Physiological Activity Recognition System (PARS)
Lead Researcher: Pei Zhang
Co-Researchers: Lorrie Cranor and Norman Sadeh

Privacy, Audit and Accountability
Lead Researcher: Anupam Datta
Co-Researchers: Limin Jia, Jeremiah Blocki, Amit Datta, Shayak Sen, Divya Sharma, and Arunesh Sinha
Privacy Notice and Choice in Practice  
Lead researcher: Lorrie Cranor

Robust Connectivity in the Presence of Insecure and Unreliable Links in Ad-Hoc Networks  
Lead Researchers: Virgil Gligor and Osman Yagan

Robust, Optimal Design of Interdependent, Multi-layer, and Multiplex Networks  
Lead Researcher: Osman Yagan

SafeSlinger: Easy to Use and Secure Public-Key Exchange  
Lead Researcher: Michael Farb  
Co-Researchers: Yue-Hsun Lin, Tiffany Hyun-Jin Kim, Jonathan McCune, and Adrian Perrig

Secure Digital Home  
Lead Researcher: Lujo Bauer  
Co-Researchers: Greg Ganger and Lorrie Cranor

Secure Software Development and Operation  
Lead Researchers: David Brumley  
Co-Researchers: Maverick Woo and Manuel Engle

Soft-Biometrics  
Lead Researcher: Marios Savvides

Spartacus  
Lead Researcher: Pei Zhang
Studying the Android Malware Ecosystem

Lead Researcher: Nicolas Christin
Co-Researchers: Tim Vidas

Trust Establishment in Interactive Human Protocols Over the Internet

Lead Researchers: Virgil Gligor and Adrian Perrig
Co-Researchers: Tiffany Hyn-Jin Kim

Trustworthy Computing Platforms and Devices

Lead Researchers: Virgil Gligor, Anupam Datta, and Adrian Perrig
Co-Researchers: Amit Vasudevan and Limin Jia

Usable Cyber Trust Indicators

Lead researcher: Lorrie Cranor

Using Personalized Face Composites for Visceral Targeting

Lead Researcher: Alessandro Acquisti
Co-Researchers: Sonam Samat, Ralph Gross, and Eyal Pe’er

Verifiable Properties of Computations Outsourced to the Cloud

Lead Researchers: Virgil Gligor and Anupam Datta
Co-Researcher: Amit Vasudevan

For information on the benefits of CyLab Partnership, and how your organization can become more involved with our program, contact Michael Lisanti, Associate Director for Partnership Development, at mlisanti@andrew.cmu.edu or 1-412-268-1870.
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