Institute for Cyber Security Overview

Ravi Sandhu
Executive Director
Professor of Computer Science
Lutcher Brown Chair in Cyber Security

April 2009

ravi.sandhu@utsa.edu
www.ics.utsa.edu
www.profsandhu.com
ICS Mission and History

MISSION
Excellence in graduate-level sponsored research

2007-2012
Founded by start-up funding from State of Texas

2012-2017
Graduated to a self-sustaining operation

2017-2022
Major expansion by winning NSF C-SPECC grant

- FlexCloud & FlexFarm
  World class research laboratories
- Sustained production of PhD graduates and sponsored research

In collaboration with:
College of Engineering
College of Business
College of Education
Open Cloud Institute
Cyber Center for Security & Analytics

Partnership with 4 NISD High Schools:
Harlan, Woodson, Taft, Business Careers

© Ravi Sandhu
World-Leading Research with Real-World Impact!
Holistic Cyber Security Research

Objectives

Enable

Enforce

What?

Why?

POLICY

ATTACKS

Respond

Defend

Mechanisms

PROTECT

How?

Detect

Complement
Requires

Institute Level Effort
World Class Laboratories
Global Collaborative Connections
ICS Major Research Thrusts

APPLICATION DOMAINS
Cloud Computing, Internet of Things (IoT), Social Media, Big Data, Mobile Platforms, Enterprise, Insider Threat, Scientific Infrastructure, Smart Homes, Smart Cities, Smart Cars etcetera

FOUNDATIONAL TECHNOLOGIES
Access Control, Policy, Malware, Forensics, Blockchain, Artificial Intelligence, Machine Learning, Data Provenance, Formal Methods etcetera

WORLD CLASS LABS
FlexCloud
Flex Farm

Goal: Broaden and Deepen
PAST SYNOPSIS

➢ PhDs graduated: 25
➢ External funding raised: $22M

CURRENT STATUS

➢ Faculty affiliates: 20
  ❖ College of Sciences: 8, Engineering: 5, Business: 5, Education: 2
  ❖ Includes 6 with research fully managed through ICS

➢ Current PhD students: 32
  ❖ College of Sciences: 22, Engineering: 7, Business: 2, Education: 1
  ❖ Domestic: 17
  ❖ Foreign: 15

➢ Current non-PhD students: 8
  ❖ Domestic: 7
  ❖ Foreign: 1