

Biometric Research at Purdue University

BC 2004

Dr. Stephen J. Elliott
Purdue University





Agenda

- Introduction to Biometrics at Purdue University
- Current and past research projects
- Lab Activities
- Current Initiatives



Introduction to Purdue

- Purdue is a land grant institute, founded in 1869
- Has statewide presence in Indiana
- 37,000 students at West Lafayette campus
- Initially funded through a Discovery Park grant

Introduction to Biometrics Program

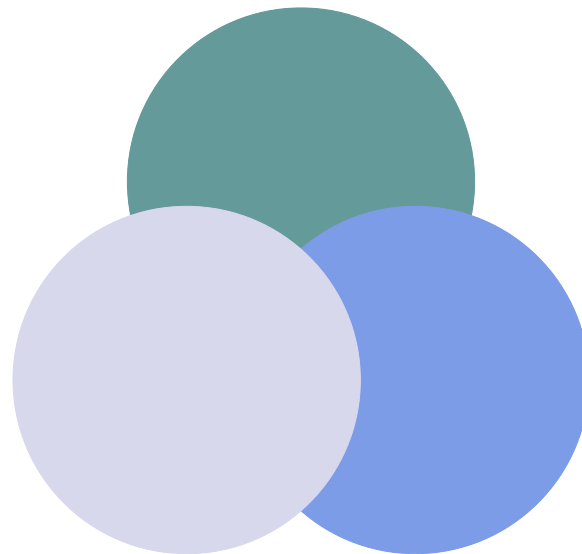


- Focused on discovery, learning, and engagement
- Focused on testing and evaluating, answering the needs of industry
- Also focused on teaching biometric technologies to a broad range of students

Biometrics and Other Faculty



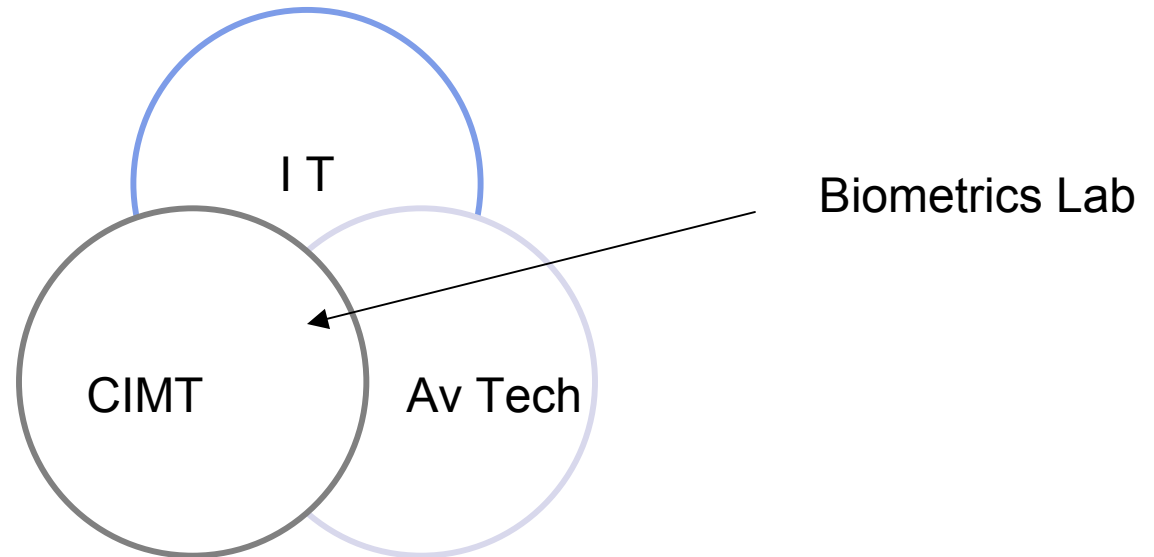
School of Technology



Agriculture

CERIAS

School of Technology Projects





Manufacturing Security

- Need to secure manufacturing industry
- Legislative and Industrial Drivers
- Partnership with Indiana Businesses through State Initiatives
- Authenticate users to CNC / PLC's through the use of biometrics
 - Remote access
 - Unauthorized access
 - Educational and Industrial Applications

Manufacturing and Biometrics Combined



- Manufacturing Lab and Biometrics Lab combined to provide Industrial Case Study applications

Manufacturing Lab



Manufacturing Lab



Manufacturing Lab

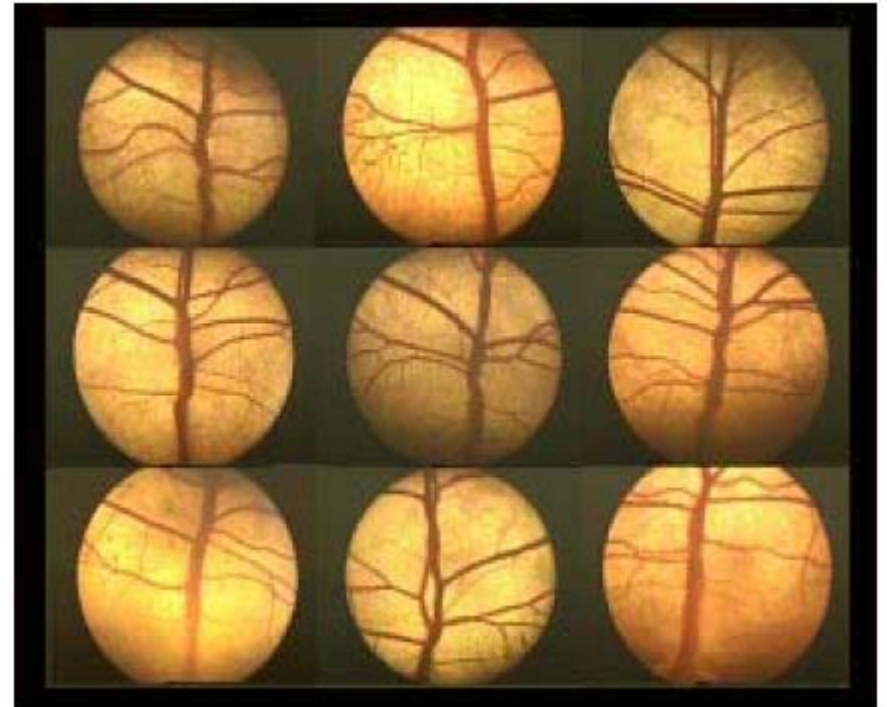




Manufacturing Lab

- Manufacturing Security Initiative will be posted and updated on line
- Remote access delivered by end of Fall Semester
- Biometric access delivered by end of Fall Semester

Animal Identification





Animal Identification

- Animals are enrolled at the County ID Day to verify that they are in possession of the 4-H member
- Nose prints are analyzed the County and State levels
- Trial was successfully concluded at the Indiana State Fair – August 2004
- For more information:
www.biotown.purdue.edu/animals

Operational / Educational Research



- School of Technology has an applied focus to its learning
- Through the combination of learning, engagement, and discovery, biometrics has been successfully applied into an academic and research learning environment

Hand Geometry – Purdue's Recreation Center



- Learning opportunity
 - Design a system
 - Site evaluations
 - Feedback from constituents – students surveyed to see what their opinion on biometrics would be
 - Already use biometrics on campus – ATM's at PEFCU - Purdue University Federal Employees Credit Union
 - Good response and feedback from constituents
 - Support solicited from University Administration
 - Partnership developed with vendors

Hand Geometry – Purdue's Recreation Center



- Learning opportunity
 - Students then presented the concepts and designed the system implementation
 - Designed training manuals
 - Researched habituation on hand geometry
 - Implementation this semester
 - 2 hand readers – one indoors and one outdoors

Hand Geometry – Purdue's Recreation Center



Hand Geometry – Purdue's Recreation Center



- Back door gate presents the most problems for existing users
 - Swipe card system is problematic with the gate
 - If refused, students have to walk round the front of the building
 - Only swipe the card once to prevent pass-back of ID cards
 - www.biotown.purdue.edu/rec

Purdue Initiatives with Standards



- Work on M1 standards
 - Secretary for INCITS M1 committee
 - Participation on testing ad-hoc, multimodal ad hoc, and vocabulary groups
- Work on International Standards
 - ISO/IEC JTC 1 SC37 WG 1 Vocabulary

For more information:

www.biotown.purdue.edu

