Challenges of Cyber Security Education at the Graduate Level

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July 27, 2011

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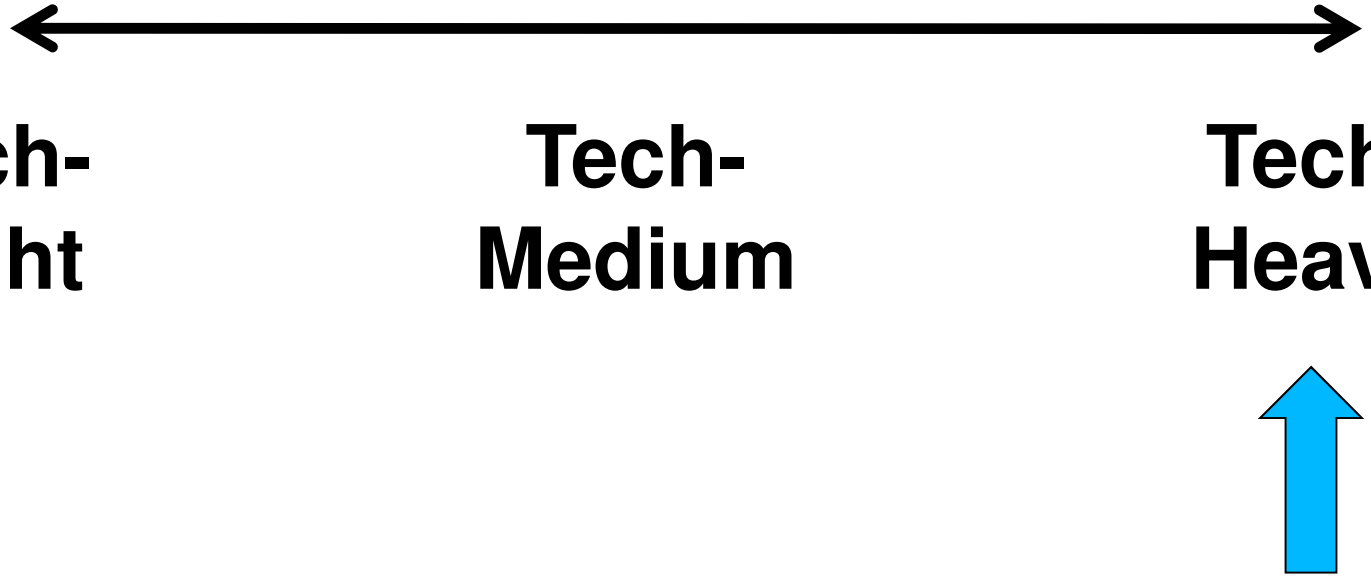
Graduate Cyber Security Education



Current State

- We can, and must, do better
- Graduate education has been neglected
  - Often a step-child in discussions about workforce development
  - Academia incentives encourage inertia
- Graduate education is critical
  - These are our future practitioners and teachers
  - Cyber security is a growing field
  - Unifies and defines the profession

Fundamental Challenge

- Too much material to teach
- Growing faster than teachers can keep up with it
  - Computer science theory
  - Computer system principles and practice
  - Cyber security theory
  - Cyber security system principles and practice
  - Statistics, sociology, organizational theory, economics, psychology, game theory ….
  - Laws, regulations, compliance ….
  - Privacy ….
  - History, successes and failures
  - …..

Ecosystem Challenge

- Mismatch of academic incentives
- Complacency: graduates are in high demand
- No community effort, no forum
- People who can make a difference are typically preoccupied by other matters

To Conclude

- This is a challenge for Graduate education in many high-tech high-touch areas.
  - What is special about cyber security?
- Inertia will not fix the problem
- Merits a community effort