Incorporating Standards Education into the Digital Forensics Curriculum

Yan Wu

Computer Science Department

Bowling Green State University

Background

- The huge gap between the demand and supply of cybersecurity and digital forensics workforce
- Center for the Future of Forensic Science, which organized multiple disciplines (e.g., Biology, Chemistry), is located on the BGSU campus. And Digital Forensics is a missing piece
- Computer science department at BGSU has developed a digital forensics (DF) specialization program, which is scheduled to begin fall semester of 2018, while the entrance security course was offered since Fall 2016

Goals and Expected Contributions

- Categorize NIST standards for digital forensics and incorporate them in BGSU digital forensics curricula
- Identify the key areas of digital forensics program to be standardized. Wherever applicable, develop lecture slides, case studies and modularized lab materials.
- Make the standards and related education material publicly available to students and faculty members at BGSU as well as the outside learning community.
- Ensure that the curricula material is reusable by others. The hands-on activities should be easily reproducible.

Communication Plans

- Build a dedicated website to host the developed curricula materials, share with other universities with similar Digital Forensics program
- Initiate discussion group, YouTube channel
- Publish a research paper and present findings at educational research conference
- Host seminar/workshop to share with the community

Evaluation

- Both formative and summative evaluation activities with two basic objectives:

  (a) documenting project outcomes and impacts for reporting to the funding agency and project partners; and

  (b) providing regular feedback for planning and decision-making to meet project goals and objectives.

- Incorporates a quasi-experimental study to investigate the impact of a curriculum with NIST standards for digital forensics, on undergraduate CS students'
  - knowledge of industry standards,
  - self-efficacy for working in the computer science industry,
  - school attendance rates, and
  - self-reported use of activities aimed at improved CS education.

Expected Outcomes

- Qualitative and Quantitative Outcomes
  - We will create DF Curricula based on NIST standards
  - Two DF courses will be offered, starting from Fall 2018 and approximately 60 students per year will be involved
  - We will host seminar/workshop at BGSU to share the results
  - We will disseminate our materials with other organizations via different ways
  - Increase the awareness of DF standards and standardization education in our University and community

Dr. Yan Wu
yanwu@bgsu.edu
Dr. Sankardas Roy
sanroy@bgsu.edu
Computer Science Department
Dr. Kristina Nell Lavenia
klaveni@bgsu.edu
School of Educational Foundations, Leadership, and Policy
Bowling Green State University