

CFEAR: Cyber Forensics Education via Augmented Reality

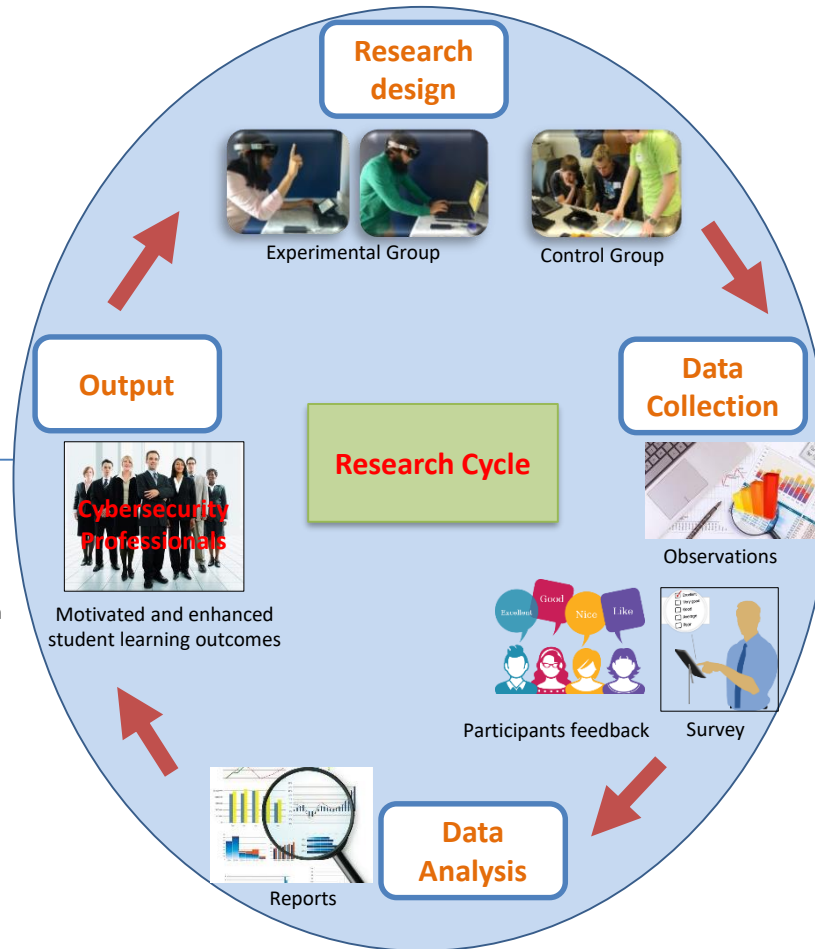


Challenges

- Cybersecurity workforce do not rival the persistence, tactical skills, and technological prowess of their potential cyber adversaries
- Unprecedented demand for cybersecurity professionals
- Deteriorating enrollment trends among females and underrepresented minority students
- Critical shortage of STEM graduates in the next decade
- Millennials, holding the key to close the cybersecurity talent gap, don't know or aren't sure what the cybersecurity profession entails

Solution

- Explore innovative and creative ways to impart cybersecurity and forensics education
- Attract and retain millennials using gadgets and latest technologies and provide thorough understanding of cybersecurity and forensics career
- Using Smart Glasses and Augmented Reality (AR) to enhance student's overall learning experience.
- Develop labs and modules utilizing AR
- Train students in a classroom setting to conduct various cybersecurity and forensics related tasks utilizing AR apps and modules



Scientific Impact

- Evaluation of the efficacy of AR based instructional methods and assessment techniques
- Identification of new ways to motivate and educate cybersecurity professionals
- Improved ability to learn course materials in a more effective fashion after experiencing the AR which in turn leads to better prepared cybersecurity and forensics professionals
- Identification of key characteristics of individuals who chose cybersecurity as their future STEM career

Broader Impact

- Using AR based modules will attract and motivate students (with special emphasis on minorities and women) in cybersecurity and forensics field
- Positive impact on student enrollment and retention in STEM (cybersecurity and forensics focus) fields
- Research conducted with smart glasses will help identify unique skillsets of cybersecurity analysts, learning gaps, and augmented reality learning solutions.
- At the K-12 level, lectures and AR based demos on cybersecurity and forensics will be presented to students to motivate them for potential careers in engineering and science.

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 Metropolitan State University
 Faisal Kaleem
 (Faisal.Kaleem@metrostate.edu)