EAGER: SaTC-EDU: AI-Cybersecurity Research and Education (AI4Cyber) at Scale

Challenge:

1. How can inter-disciplinary academic and industry leaders be leveraged to support innovative AI for Cybersecurity research and educational activities?
2. How can a novel AI4Cyber education and research system be developed that enables end-users to dynamically provision prevailing AI and cybersecurity tools?
3. How can an AI for Cybersecurity education be delivered at scale to meet the rapidly increasing demand for a trained workforce?

Scientific Impact:

- Enhance research and education pertaining to cyber threat intelligence, disinformation, security operations centers, and adversarial machine learning to robustify cyber-defenses.
- Offer tools to the larger cybersecurity community to execute their AI4Cyber research and education activities (e.g., curriculum development).
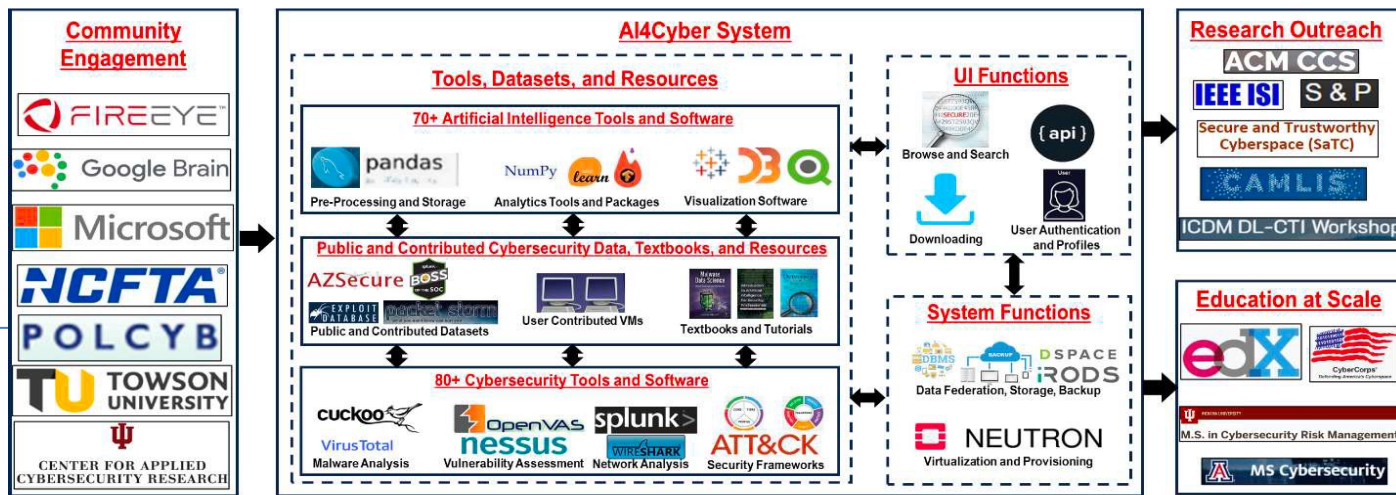
Solution:

- Develop an AI for cybersecurity course covering requirement analysis, data collection, and analytics that is offered on the edX platform
- Design of an AI4Cyber VM aggregating 60+ disparate AI and cybersecurity tools and resources.

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Broader Impact and Broader Participation:

- AI4Cyber course has been delivered for four semesters to nearly 200+ students from 12+ countries.
- Workshops offered at prevailing AI conferences, including ACM KDD, IEEE ICDM, and Big Data Hubs (100+ participants total).
- Special issues on AI-enabled analytics for cybersecurity offered at ACM TMIS and IEEE TDSC (90+ submissions).
- Student-oriented case competitions offered at IU Kelley School → 200+ student participants.