Sociotechnical Synthesis

The cybersecurity field faces a lack of diversity due to limited exposure and lack of preparation for teaching technical skills among students from underrepresented backgrounds. My project proposes the integration of Raspberry Pi devices into school curricula as a practical, cost-effective solution to this problem. Raspberry Pis are compact, affordable computers that provide a hands-on platform for students to develop computational and cybersecurity skills. By making these devices widely available in schools, this will decrease the digital gap and allow for a more diverse workforce in cybersecurity.

Drawing from my own experience in public education from kindergarten through 12th grade, I observed a significant absence of encouragement or resources for learning cybersecurity and the world around technology/IT. This lack of positive reinforcement and technical training leaves many students unaware & unprepared for technology-driven career paths like cybersecurity.

Integrating Raspberry Pi devices into school systems offers a practical way to address this gap. These devices can be used to teach programming, networking, and cybersecurity concepts in a hands-on manner. By training educators to use Raspberry Pis as teaching tools, schools can create an environment where students are encouraged to experiment with technology and build foundational skills. This allows for early exposure in technical education to help increases the probability of minority students to pursue a careers in cybersecurity.

In the next upcoming documents, we will discuss how exposure to these technological concepts have shaped the current cybersecurity workforce and how this can be altered moving forward. Lastly the raspberry pi will be introduced to address the root issue while also providing a mock example of what this curriculum would look like.