Cybersecurity Daily Dairy

Date: 14 July , 2025
Activity: Implementation of Core Encryption and Audio Processing Modules

Description:
On this day, I continued the development phase of my project **AudioCrypt**. The main focus was to implement the **core AES encryption module** and integrate it with the **audio processing pipeline**. I worked on writing Python scripts to perform encryption and decryption of text data using a user-defined password key. Additionally, I explored how to read and write .wav audio files using the **wave** and **numpy** libraries.

I also began designing the function responsible for hiding encrypted data inside audio samples using the **Least Significant Bit (LSB)** technique. Several test cases were executed to ensure that the data was properly embedded and could be accurately retrieved without audio distortion.

Outcome:

- AES encryption successfully integrated.
- LSB embedding logic implemented and tested on sample WAV files.
- Initial working prototype of data hiding and retrieval completed.

By Ritesh Kumar Gupta CRN : 2315195 URN : 2302650