Title:

A Comprehensive Review and Assessment of Cybersecurity Vulnerability Detection Methodologies

Author: Walayat Hussain

Year: 2022

Purpose, Methods, Results, Conclusions

◆ **Purpose:**

To systematically review and assess existing vulnerability detection methods in cybersecurity.

◆ **Methods:**
- Conducted extensive literature review of traditional and modern techniques (signature-based, anomaly-based, AI-driven).
- Evaluated methods based on scalability, accuracy, efficiency, and real-world applicability.

◆ **Results:**
- Identified significant limitations in traditional detection methods.
- Found AI-driven and hybrid approaches to offer better accuracy and adaptability.

◆ **Conclusions:**
- Hybrid techniques combining multiple methods improve detection.
- Organizations must adapt detection strategies to evolving threats.

Relevance to My Research

◆ Hussain's analysis directly informs my study on vulnerability management practices.
◆ Provides a comprehensive benchmark to evaluate current detection methods.
◆ Highlights the need for integrating AI and hybrid techniques—key focus of my project.
◆ Emphasizes the importance of frameworks like MITRE ATT&CK, which I use to analyze real-world incidents.

Citation

Hussain, W. (2022). *A Comprehensive Review and Assessment of Cybersecurity Vulnerability Detection Methodologies*. MDPI. Available at: https://www.mdpi.com/2624-800X/4/4/40