

Artificial Intelligence for Web-Based Application Security and Threat Detection

Abstract

The rapid growth of web-based applications has increased the risk of cyber threats, making web application security a critical concern. Web application security faces challenges due to the lesser number of malicious requests compared to the large volume of benign requests. Artificial intelligence (AI) significantly enhances cybersecurity by enabling intelligent risk mitigation through automated threat detection and response. AI-driven systems analyze vast amounts of data in real time, identifying patterns and anomalies that might indicate cyberattacks.

Objective

? The primary objective is to explore and identify a set of open-source tools suitable for securing web-based applications. The study also aims to demonstrate the hands-on experience of selected tools on web applications.

? The project would focus on identifying vulnerabilities and security flaws in web environments using artificial intelligence.

References

- [1] Practical web security testing: Evolution of web application modules and open-source testing tools. In 2022 International Conference on Intelligent Data Science Technologies and Applications (IDSTA), pp. 152-155. IEEE, (2022)
- [2] An integrated vulnerability assessment tool for web applications. In 2022 5th International Conference on Multimedia, Signal Processing and Communication Technologies (IMPACT), pp. 1-5. IEEE, (2022)
- [3] Web based anomaly detection using zero-shot learning with CNN." IEEE Access 11 pp.91511-91525 (2023).

Academic Project Requirements:

- 1) Required No. of student(s) for academic project: 2
- 2) Name of course with branch/discipline: B.E./B.Tech Computer Science /IT/ MCA
- 3) Academic Project duration:
 - (a) Total academic project duration: 12 Weeks
 - (b) Student's presence at IPR for academic project work: 5 Full working Days per week

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