Feature Engineering for Unknown Web Attacks
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Background
- Current intrusion prevention systems utilize web attack signatures to identify malicious behavior.
- Networks are susceptible to zero-day/unknown web attacks, which lack these signatures.
- Analyzed 7GB of logs.

Objective
- Engineer new features to detect zero-day attacks.
- Create a scoring system that ranks clients on suspicious activity.

Future Work
- More EDA to engineer additional features.
- Improve scoring system by minimizing legit bot detection and weighting.

Methods
- EDA: to understand the dataset.
- ML techniques: DBSCAN, NLP, KNN to establish normal/irregular behavior.
- Statistical Methods: IQR, Z-scores to examine outliers.

Data

Results
- 6 Detections Created:
  - Blind XSS vulnerabilities
  - Sypex dumpers
  - SEO search abuse
  - Vulnerable adminer.php
  - Commercial fiber router login
  - Wordpress abuse
- 1027 blocked IPs from 81 different countries.

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