

## How machine learning is utilized for malware detection:

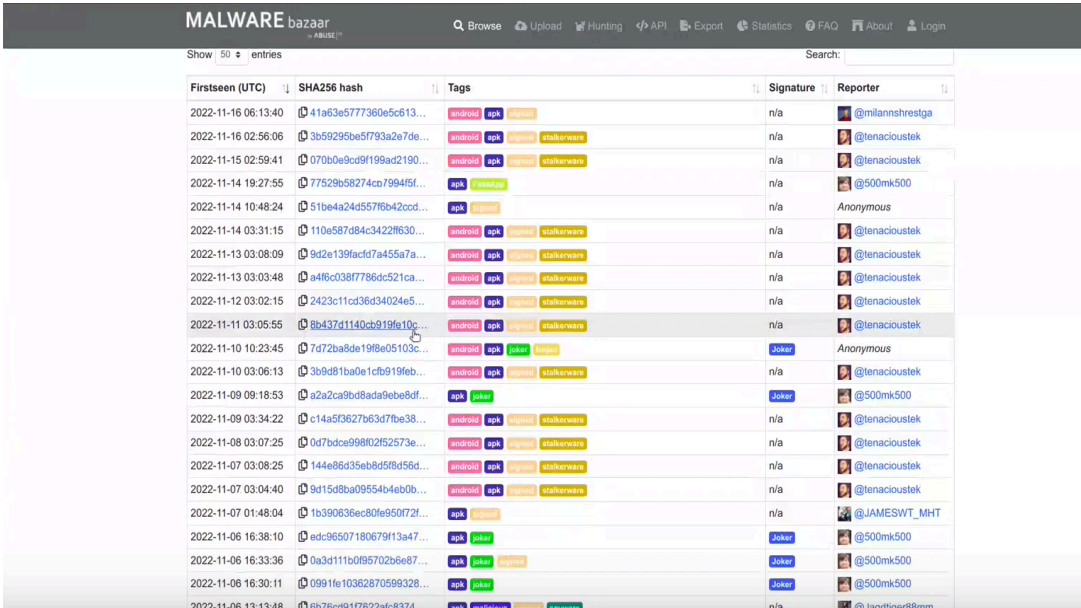
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Machine learning can be used for malware detection in Android by training models to recognize patterns and features indicative of malicious behaviour. Here's a short explanation of the process:

1. **Data Collection:** Gather a large dataset of Android applications, including both **benign** and **malicious samples**.
2. **Feature Extraction:** Extract relevant features from the apps, such as permissions, API calls, network traffic patterns, and code structure.
3. **Model Training:** Use the extracted features to train machine learning models, such as **decision trees**, **support vector machines**, or **neural networks**. The model learns to distinguish between benign and malicious apps based on the provided features.
4. **Model Evaluation:** Validate the model using a separate dataset to ensure its accuracy, precision, recall, and overall effectiveness in detecting malware.
5. **Deployment:** Integrate the trained model into a malware detection system that can analyze new apps in real-time, flagging those that exhibit suspicious behavior for further review or automatic action.

*By continuously updating the model with new data and refining its features, machine learning can provide an effective and adaptive solution for identifying and mitigating malware threats on Android devices.*

The below screenshot specifies the website from which datasets can be obtained from.



Firstseen (UTC)	SHA256 hash	Tags	Signature	Reporter
2022-11-16 06:13:40	41a63e5777360e5c613...	android apk malware	n/a	@milannshrestga
2022-11-16 02:56:06	3b59295be5f793a2e7de...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-15 02:59:41	070b0e9cd9f199ad2190...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-14 19:27:55	77529b58274cd7994f5f...	apk malware	n/a	@500mk500
2022-11-14 10:48:24	51be4a24d557f6b42cc0...	apk malware	n/a	Anonymous
2022-11-14 03:31:15	110ae587d84c3422f630...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-13 03:08:09	9d2e139facfd7a455a7a...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-13 03:03:48	a4f6c038f7786dc521ca...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-12 03:02:15	2423c11cd36d34024e5...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-11 03:05:55	8b437d1140cb919fe10c...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-10 10:23:45	7d72ba8de198e05103c...	android apk malware stalkerware	Joker	Anonymous
2022-11-10 03:06:13	3b9d81ba0e1cfb919feb...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-09 09:18:53	a2a2ca9bd8ada9ebe8df...	apk malware	Joker	@500mk500
2022-11-09 03:34:22	c14a5f3627b63d7fbc38...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-08 03:07:25	0d7bdce99802f52573e...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-07 03:08:25	144e86d35eb8d5f8d56d...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-07 03:04:40	9d15d8ba09554b4eb0b...	android apk malware stalkerware	n/a	@tenacioustek
2022-11-07 01:48:04	1b390636ec80fe950f72f...	apk malware	n/a	@JAMESWVT_MHT
2022-11-06 16:38:10	eadc96507180679f13a47...	apk malware	Joker	@500mk500
2022-11-06 16:33:36	0a3d111b0f95702b6e87...	apk malware	Joker	@500mk500
2022-11-06 16:30:11	0991fe10362870599328...	apk malware	Joker	@500mk500
2022-11-06 13:13:48	6b76cd91f7622afc8374...	apk malware spyware	n/a	@Jagdtiger88mm

