CVE-2021-29547

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CVE-2021-29547 - advisory for GHSA-4fg4-p75j-w5xj

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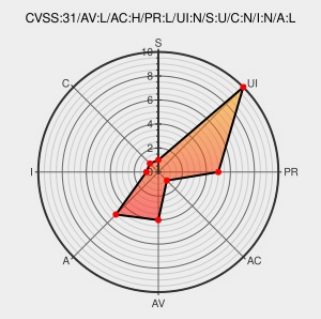

Certain versions of Tensorflow from Google contain the following vulnerability:

TensorFlow is an end-to-end open source platform for machine learning. An attacker can cause a segfault and denial of service via accessing data outside of bounds in `tf.raw_ops.QuantizedBatchNormWithGlobalNormalization`. This is because the implementation(https://github.com/tensorflow/tensorflow/blob/55a97caa9e99c7f37a0bbbeb414
L189) assumes the inputs are not empty. If any of these inputs is empty, `.flat<T>()` is an empty buffer, so accessing the element at index 0 is accessing data outside of bounds. The fix will be included in TensorFlow 2.5.0. We will also cherrypick this commit on TensorFlow 2.4.2, TensorFlow 2.3.3, TensorFlow 2.2.3 and TensorFlow 2.1.4, as these are also affected and still in supported range.

CVE-2021-29547 has been assigned by security-advisories@github.com to track the vulnerability - currently rated as MEDIUM severity.

Affected Vendor/Software: **tensorflow** - **tensorflow** version **< 2.1.4**

Affected Vendor/Software: **tensorflow** - **tensorflow** version **>= 2.2.0, < 2.2.3**

Affected Vendor/Software: **tensorflow** - **tensorflow** version **>= 2.3.0, < 2.3.3**

Affected Vendor/Software: **tensorflow** - **tensorflow** version **>= 2.4.0, < 2.4.2**

CVSS3 Score: 5.5 - MEDIUM

Attack Vector	Attack Complexity	Privileges Required	User Interaction
LOCAL	LOW	LOW	NONE
Scope	**Confidentiality Impact**	**Integrity Impact**	**Availability Impact**
UNCHANGED	NONE	NONE	HIGH

CVSS2 Score: 2.1 - LOW

Access Vector	Access Complexity	Authentication
LOCAL	LOW	NONE
Confidentiality Impact	**Integrity Impact**	**Availability Impact**
NONE	NONE	PARTIAL

CVE References

Description	Tags	Link
Heap out of bounds in `QuantizedBatchNormWithGlobalNormalization` · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	CONFIRM github.com/tensorflow/tensorflow/security/advisories/GHSA-4fg
Add missing validation in `QuantizedBatchNormWithGlobalNormalization` · tensorflow/tensorflow@d6ed5bc · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/d6ed5bcfe1dcab9e85a4d39931bd1

Related QID Numbers

982502 Python (pip) Security Update for tensorflow-gpu (GHSA-4fg4-p75j-w5xj)

Known Affected Configurations (CPE V2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Application	Google	Tensorflow	All	All	All	All
Application	Google	Tensorflow	All	All	All	All
Application	Google	Tensorflow	All	All	All	All
Application	Google	Tensorflow	All	All	All	All
Application	Google	Tensorflow	All	All	All	All

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No vendor comments have been submitted for this CVE

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