



CVE-2021-29547

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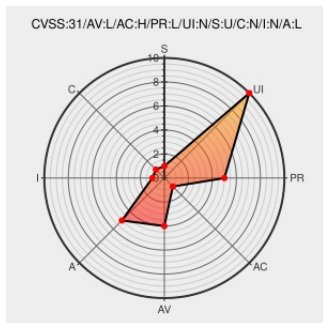
CVE-2021-29547 - advisory for GHSA-4fg4-p75j-w5xj

Source: Mitre

Source: NIST

CVE.ORG

Print: PDF



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/55a97caa9e99c7f37a0bbbeb414c1189>) 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 cherry-pick 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

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Related QID Numbers

982502 Python (pip) Security Update for tensorflow-gpu (GHSA-4fg4-p75j-w5xi)

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

cpe:2.3:a:google:tensorflow:*:*:*:*:*:*

```
cpe:2.3:a:google:tensorflow:*:*:*:*:*:*:*
```

```
cpe:2.3:a:google:tensorflow:*:*:*:*:*:*:*
```

```
cpe:2.3:a:google:tensorflow:*.:*:*:*:*:*:*
```

```
cpe:2.3:a:google:tensorflow:*:*:*:*:*:*:*
```

No vendor comments have been submitted for this CVE

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