

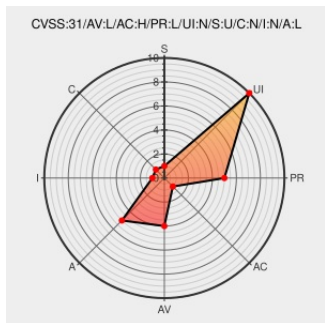


CVE-2021-29522

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CVE-2021-29522 - advisory for GHSA-c968-pq7h-7fxv

[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. The `tf.raw_ops.Conv3DBackprop*` operations fail to validate that the input tensors are not empty. In turn, this would result in a division by 0. This is because the

implementation(<https://github.com/tensorflow/tensorflow/blob/a91bb59769f19146d5a0c200602L450>) does not check that the divisor used in computing the shard size is not zero. Thus, if attacker controls the input sizes, they can trigger a denial of service via a division by zero error. 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-2021-29522 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
Eliminate a division by 0 in 3D convolutions. · tensorflow/tensorflow@311403e · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/311403edbc9816df80274bd1ea8b3c0c0f22c3fa
Division by 0 in `Conv3DBackprop*` · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	CONFIRM github.com/tensorflow/tensorflow/security/advisories/GHSA-c968-pq7h-7fxv

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Related QID Numbers

982524 Python (pip) Security Update for tensorflow-gpu (GHSA-c968-pq7h-7fxv)

Known Affected Configurations (CPE V2.3)

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

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

No vendor comments have been submitted for this CVE

Social Mentions

Source	Title	Posted (UTC)
@CVEreport	CVE-2021-29522 : TensorFlow is an end-to-end open source platform for machine learning. The `tf.raw_ops.Conv3DBackp... twitter.com/i/web/status/1...	2021-05-14 20:10:11
/r/netcve	CVE-2021-29522	2021-05-14 20:41:12

[← Previous ID](#)[Next ID →](#)

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