

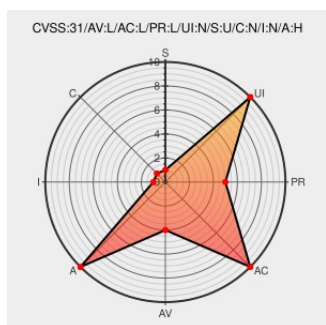


CVE-2021-41197

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CVE-2021-41197 - advisory for GHSA-prcg-wp5q-rv7p

[Source: Mitre](#)[Source: NIST](#)[CVE.ORG](#)[Print: PDF](#)

Certain versions of [Tensorflow](#) from [Google](#) contain the following vulnerability:

TensorFlow is an open source platform for machine learning. In affected versions TensorFlow allows tensor to have a large number of dimensions and each dimension can be as large as desired. However, the total number of elements in a tensor must fit within an `int64\_t`. If an overflow occurs, `MultiplyWithoutOverflow` would return a negative

result. In the majority of TensorFlow codebase this then results in a `CHECK`-failure. Newer constructs exist which return a `Status` instead of crashing the binary. This is similar to CVE-2021-29584. The fix will be included in TensorFlow 2.7.0. We will also cherry-pick this commit on TensorFlow 2.6.1, TensorFlow 2.5.2, and TensorFlow 2.4.4, as these are also affected and still in supported range.

CVE-2021-41197 has been assigned by [security-advisories@github.com](#) to track the vulnerability - currently rated as **MEDIUM** severity.

Affected Vendor/Software: [tensorflow](#) - **tensorflow** version $\geq 2.6.0$, $< 2.6.1$

Affected Vendor/Software: [tensorflow](#) - **tensorflow** version $\geq 2.5.0$, $< 2.5.2$

Affected Vendor/Software: [tensorflow](#) - **tensorflow** version $< 2.4.4$

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
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LOCAL	LOW	NONE
Confidentiality Impact	Integrity Impact	Availability Impact
NONE	NONE	PARTIAL

CVE References

Description	Tags	Link
tf.pad crashes with large paddings · Issue #51908 · tensorflow/tensorflow · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/is...
Merge pull request #51717 from yongtang:46890-tf.image.pad_to_boundin... · tensorflow/tensorflow@d81b135 · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/d81
PR #51732: Fix crash of tf.image.crop_and_resize when input is large ... · tensorflow/tensorflow@7c1692b · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/7c1
tf.image.resize/resize_with_crop_or_pad/pad_to_bounding_box/extract_glimpse crash(abort) · Issue #46890 · tensorflow/tensorflow · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/is...
Merge pull request #51658 from yongtang:51618-tf.image.extract_glimpse · tensorflow/tensorflow@a871989 · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/a87
Crashes due to overflow and `CHECK`-fail in ops with large tensor shapes · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	CONFIRM github.com/tensorflow/tensorflk

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Related QID Numbers

[980163](#) Python (pip) Security Update for tensorflow-gpu (GHSA-prcg-wp5q-rv7p)

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-2021-41197 : TensorFlow is an open source platform for machine learning. In affected versions TensorFlow allows... twitter.com/i/web/status/1...	2021-11-05 20:05:07

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[Next ID →](#)

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