



CVE-2021-29521

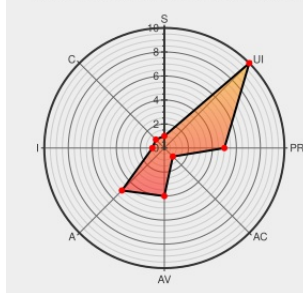
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CVE-2021-29521 - advisory for GHSA-hr84-fqvp-48mm

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

CVSS:31/AV:L/AC:H/PR:L/UI:N/S:U/C:N/I:N/A:L



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

TensorFlow is an end-to-end open source platform for machine learning. Specifying a negative dense shape in ``tf.raw_ops.SparseCountSparseOutput`` results in a segmentation fault being thrown out from the standard library as ``std::vector`` invariants are broken. This is because the

implementation(<https://github.com/tensorflow/tensorflow/blob/8f7b60ee8c0206a2c99802e3a4dL213>) assumes the first element of the dense shape is always positive and uses it to initialize a ``BatchedMap<T>`` (i.e., ``std::vector<absl::flat_hash_map<int64,T>>`` (<https://github.com/tensorflow/tensorflow/blob/8f7b60ee8c0206a2c99802e3a4dL213>) data structure. If the ``shape`` tensor has more than one element, ``num_batches`` is the first value in ``shape``. Ensuring that the ``dense_shape`` argument is a valid tensor shape (that is, all elements are non-negative) solves this issue. The fix will be included in TensorFlow 2.5.0. We will also cherry-pick this commit on TensorFlow 2.4.2 and TensorFlow 2.3.3.

CVE-2021-29521 has been assigned by [security-advisories@github.com](#) to track the vulnerability - currently rated as **MEDIUM** severity.

Affected Vendor/Software: **tensorflow** - **tensorflow** version < 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
Fix the segfault in `tf.raw_ops.SparseCountSparseOutput`. · tensorflow/tensorflow@c57c0b9 · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/c57c0b9f3a4f8684f3489dd9a9ec627ad8b5
Segfault in `SparseCountSparseOutput` · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	CONFIRM github.com/tensorflow/tensorflow/security/advisories/GHSA-hr84-fqvp-48mm

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Related QID Numbers

982525 Python (pip) Security Update for tensorflow-gpu (GHSA-hr84-fqvp-48mm)

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-2021-29521 : TensorFlow is an end-to-end open source platform for machine learning. Specifying a negative dense... twitter.com/i/web/status/1...	2021-05-14 20:13:01
/r/netcve	CVE-2021-29521	2021-05-14 20:41:16

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