

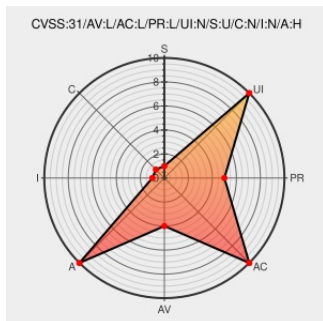


CVE-2021-37661

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CVE-2021-37661 - advisory for GHSA-gf88-j2mg-cc82

[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. In affected versions an attacker can cause a denial of service in ``boosted_trees_create_quantile_stream_resource`` by using negative arguments. The [implementation]

(<https://github.com/tensorflow/tensorflow/blob/84d053187cb80d975ef2b9684d4b61981bca0c41> does not validate that ``num_streams`` only contains non-negative numbers. In turn, [this results in using this value to allocate memory]

(<https://github.com/tensorflow/tensorflow/blob/84d053187cb80d975ef2b9684d4b61981bca0c41> L40). However, ``reserve`` receives an unsigned integer so there is an implicit conversion from a negative value to a large positive unsigned. This results in a crash from the standard library. We have patched the issue in GitHub commit [8a84f7a2b5a2b27ecf88d25bad9ac777cd2f7992](#). The fix will be included in TensorFlow 2.6.0. We will also cherrypick this commit on TensorFlow 2.5.1, TensorFlow 2.4.3, and TensorFlow 2.3.4, as these are also affected and still in supported range.

CVE-2021-37661 has been assigned by [security-advisories@github.com](#) to track the vulnerability - currently rated as **MEDIUM** severity.

Affected Vendor/Software: **tensorflow** - **tensorflow** version $\geq 2.5.0$, $< 2.5.1$

Affected Vendor/Software: **tensorflow** - **tensorflow** version $\geq 2.4.0$, $< 2.4.3$

Affected Vendor/Software: **tensorflow** - **tensorflow** version $< 2.3.4$

CVSS3 Score: **5.5 - MEDIUM**

Attack Vector	Attack Complexity	Privileges Required	User Interaction
LOCAL	LOW	LOW	NONE
Scope	Confidentiality	Integrity	Availability

Impact		Impact	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
Ensure num_streams >= 0 in tf.raw_ops.BoostedTreesCreateQuantileStrea... · tensorflow/tensorflow@8a84f7a · GitHub	github.com text/html	 MISC github.com/tensorflow/tensorflow/commit/8a84f7a2b5a2b27ecf88d25bad9ac7
Crash caused by integer conversion to unsigned · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	 CONFIRM github.com/tensorflow/tensorflow/security/advisories/GHSA-gf8c-cc82

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Related QID Numbers

981530 Python (pip) Security Update for tensorflow-gpu (GHSA-gf88-j2mg-cc82)

Known Affected Configurations (CPE V2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Application	Google	Tensorflow	All	All	All	All
Application	Google	Tensorflow	2.5.0	All	All	All
Application	Google	Tensorflow	2.6.0	rc0	All	All
Application	Google	Tensorflow	2.6.0	rc1	All	All
Application	Google	Tensorflow	2.6.0	rc2	All	All
cpe:2.3:a:google:tensorflow:*.*.*.*.*.*.:						
cpe:2.3:a:google:tensorflow:2.5.0:*.*.*.*.*.*.:						
cpe:2.3:a:google:tensorflow:2.6.0:rc0:*.*.*.*.*.:						
cpe:2.3:a:google:tensorflow:2.6.0:rc1:*.*.*.*.*.:						
cpe:2.3:a:google:tensorflow:2.6.0:rc2:*.*.*.*.*.:						

No vendor comments have been submitted for this CVE

Social Mentions

Source	Title	Posted (UTC)
 @CVEreport	CVE-2021-37661 : TensorFlow is an end-to-end open source platform for machine learning. In affected versions an att... twitter.com/i/web/status/1...	2021-08-12 21:13:12
 @LinInfoSec	Tensorflow - CVE-2021-37661: github.com/tensorflow/ten...	2021-08-12 22:40:43

[← Previous ID](#)

[Next ID →](#)

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