

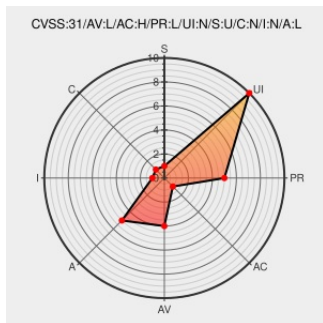


CVE-2021-29529

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CVE-2021-29529 - advisory for GHSA-jfp7-4j67-8r3q

[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 trigger a heap buffer overflow in ``tf.raw_ops.QuantizedResizeBilinear`` by manipulating input values so that float rounding results in off-by-one error in accessing image elements. This is because the

implementation(<https://github.com/tensorflow/tensorflow/blob/44b7f486c0143f68b56c34e2d01e146ee445L264>) computes two integers (representing the upper and lower bounds for interpolation) by ceiling and flooring a floating point value. For some values of ``in``, ``interpolation->upper[i]`` might be smaller than ``interpolation->lower[i]``. This is an issue if ``interpolation->upper[i]`` is capped at ``in_size-1`` as it means that ``interpolation->lower[i]`` points outside of the image. Then, in the interpolation code(<https://github.com/tensorflow/tensorflow/blob/44b7f486c0143f68b56c34e2d01e146ee445L264>), this would result in heap buffer overflow. 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-2021-29529 has been assigned by security-advisories@github.com to track the vulnerability - currently rated as **HIGH** 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: **7.8 - HIGH**

Attack
Vector

LOCAL

Attack
Complexity

LOW

Privileges
Required

LOW

User
Interaction

NONE

Scope	Confidentiality Impact	Integrity Impact	Availability Impact
UNCHANGED	HIGH	HIGH	HIGH
CVSS2 Score: 4.6 - MEDIUM			
Access Vector	Access Complexity	Authentication	
LOCAL	LOW	NONE	
Confidentiality Impact	Integrity Impact	Availability Impact	
PARTIAL	PARTIAL	PARTIAL	

CVE References

Description	Tags	Link
Heap buffer overflow caused by rounding · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	CONFIRM github.com/tensorflow/tensorflow/security/advisories/GHSA-jfp7-4j67-8r3q
Fix heap buffer overflow caused by rounding. · tensorflow/tensorflow@f851613 · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/f851613f8f0fb0c838d160ced13c134f778e3ce7

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Related QID Numbers

982419 Python (pip) Security Update for tensorflow-gpu (GHSA-jfp7-4j67-8r3q)

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)
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