



CVE-2022-23559

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CVE-2022-23559 - advisory for GHSA-98p5-x8x4-c9m5

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

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



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

Tensorflow is an Open Source Machine Learning Framework. An attacker can craft a TFLite model that would cause an integer overflow in embedding lookup operations. Both `embedding\_size` and `lookup\_size` are products of values provided by the user. Hence, a malicious user could trigger overflows in the multiplication. In certain scenarios, this can then result in heap OOB read/write. Users are advised to upgrade to a patched version.

CVE-2022-23559 has been assigned by [security-advisories@github.com](#) to track the vulnerability - currently rated as **HIGH** severity.

Affected Vendor/Software: [tensorflow](#) - tensorflow version $\geq 2.7.0$, $< 2.7.1$

Affected Vendor/Software: [tensorflow](#) - tensorflow version $\geq 2.6.0$, $< 2.6.3$

Affected Vendor/Software: [tensorflow](#) - tensorflow version $< 2.5.3$

CVSS3 Score: **8.8 - HIGH**

Attack Vector	Attack Complexity	Privileges Required	User Interaction
NETWORK	LOW	LOW	NONE
Scope	Confidentiality Impact	Integrity Impact	Availability Impact
UNCHANGED	HIGH	HIGH	HIGH

CVSS2 Score: **6.5 - MEDIUM**

Access Vector	Access Complexity	Authentication
NETWORK	LOW	SINGLE
Confidentiality Impact	Integrity Impact	Availability Impact

PARTIAL

PARTIAL

PARTIAL

CVE References

Description	Tags	Link
Prevent segfault in `embedding_lookup_sparse.cc` · tensorflow/tensorflow@a4e401d · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/a4e401da71458d253b05
Integer overflow in TFLite · Advisory · tensorflow/tensorflow · GitHub	github.com text/html	CONFIRM github.com/tensorflow/tensorflow/security/advisories/GHSA-98
[lite] Check for overflow when creating required bytes. · tensorflow/tensorflow@1de4972 · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/1de49725a5fc4e48f1a3b
[lite] Move MultiplyAndCheckOverflow to util to be able to share it. · tensorflow/tensorflow@f19be71 · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/commit/f19be71717c497723ba0c
tensorflow/embedding_lookup_sparse.cc at ca6f96b62ad84207fbec580404eaa7dd7403a550 · tensorflow/tensorflow · GitHub	github.com text/html	MISC github.com/tensorflow/tensorflow/blob/ca6f96b62ad84207fbec580404eaa7d L189

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There are currently no QIDs associated with this CVE

Known Affected Configurations (CPE V2.3)

Type	Vendor	Product	Version	Update	Edition	Language
Application	Google	Tensorflow	2.7.0	All	All	All
Application	Google	Tensorflow	All	All	All	All
Application	Google	Tensorflow	All	All	All	All
cpe:2.3:a:google:tensorflow:2.7.0:*:*:*:*:*:						
cpe:2.3:a:google:tensorflow:*:*:*:*:*:						
cpe:2.3:a:google:tensorflow:*:*:*:*:*:						

No vendor comments have been submitted for this CVE

Social Mentions

Source	Title	Posted (UTC)
@CVEreport	CVE-2022-23559 : Tensorflow is an Open Source Machine Learning Framework. An attacker can craft a TFLite model that... twitter.com/i/web/status/1...	2022-02-04 22:42:35
@LinInfoSec	Tensorflow - CVE-2022-23559: github.com/tensorflow/ten...	2022-02-05 02:00:09

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