

Package ‘nativeORT’

May 12, 2026

Type Package

Title Native 'R' 'ONNX' Runtime

Version 0.1.2

Description Provides 'R' native 'ONNX' model inference without requiring 'Python', 'reticulate' bindings, or 'TensorFlow'. This package directly binds the 'ONNX Runtime' C API via 'Rcpp', enabling real-time inference for '.onnx' engines, all within 'R'. Standard CPU execution is supported as well as the 'CoreML' Execution Provider (CEP) for Apple Silicon, all without external bindings. This package handles OS detection, linking 'ONNX' libraries, and inference. For more information about 'ONNX Runtime' see <<https://onnxruntime.ai/>>.

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Language en-US

Encoding UTF-8

LinkingTo Rcpp

Imports Rcpp, digest, glue

Config/roxygen2/version 8.0.0

SystemRequirements libonnxruntime (>= 1.20)

Suggests ggplot2, knitr, rmarkdown

VignetteBuilder knitr

URL <https://github.com/calebm carr/nativeORT>

BugReports <https://github.com/calebm carr/nativeORT/issues>

NeedsCompilation yes

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Repository CRAN

Date/Publication 2026-05-12 19:20:08 UTC

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ort_binary_url	<i>ort_binary_url</i>
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Description

ort_binary_url

Usage

ort_binary_url()

Value

string where to download onnxruntime from

Examples

ort_binary_url()

ort_codesign	<i>ort_codesign</i>
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Description

for macs, signs the downloaded binaries

Usage

ort_codesign(lib_dir)

Arguments

lib_dir where the libraries are

Value

invisible lib path

Examples

```
if(!ort_is_installed()){  
    ort_codesign(file.path(ort_install_dir(), "lib"))  
}
```

ort_detect_os	<i>ort_detect_os</i>
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Description

ort_detect_os

Usage

ort_detect_os()

Value

str - platform

Examples

ort_detect_os()

ort_download	<i>ort_download</i>
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Description

ort_download

Usage

ort_download(url, dest_dir)

Arguments

url	where to download from
dest_dir	where to download to

Value

invisible dest_dir

Examples

```
if (!ort_is_installed()){  
  ort_download(ort_binary_url(), ort_install_dir())  
}
```

ort_infer_raw	<i>ort_infer_raw</i>
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Description

ort_infer_raw

Usage

```
ort_infer_raw(session, input)
```

Arguments

session	ORT session
input	tensor to infer on

Value

ORT output

Examples

```
if (file.exists("model.onnx")) {  
  session <- ort_session("model.onnx")  
  input <- array(runif(1 * 3 * 256 * 256), dim = c(1L, 3L, 256L, 256L))  
  ort_infer_raw(session, input)  
}
```

`ort_install`

ort_install

Description

`ort_install`

Usage

`ort_install()`

Value

invisible where it was saved to

Examples

```
if(!ort_is_installed()){
  ort_install()}

```

`ort_install_dir`

ort_install_dir

Description

`ort_install_dir`

Usage

`ort_install_dir()`

Value

where the install lives

Examples

```
ort_install_dir()

```

ort_is_installed	<i>ort_is_installed</i>
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Description

ort_is_installed

Usage

```
ort_is_installed()
```

Value

boolean for if you have onnx runtime or not

Examples

```
ort_is_installed()
```

ort_session	<i>session.R</i>
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Description

session.R

Usage

```
ort_session(
  path,
  type = "detection",
  provider = "cpu",
  cache_dir = NULL,
  threads = 0L,
  opt_level = 99L
)
```

Arguments

path	where the .onnx is located
type	detection/classificaton/segmentation
provider	cpu or coreml (only for apple silicon)
cache_dir	where coreml cache be directed
threads	= 0 for all, integer otherwise
opt_level	= 99 for all ops, 1 for basics

Value

ORT session object

Examples

```
if (file.exists('./yolov11n.onnx')) {  
  ort_session('./yolov11n.onnx', 'detection')  
}
```

print.ort_session *print.ort_session*

Description

print.ort_session

Usage

```
## S3 method for class 'ort_session'  
print(x, ...)
```

Arguments

<i>x</i>	session object
<i>...</i>	extra params

Value

invisible session

Examples

```
if (file.exists("model.onnx")) {  
  session <- ort_session("model.onnx")  
  print(session)  
}
```

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