

Package ‘dwg2geo’

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Title Convert Engineering 'DWG' Drawings to Auditable 'GeoJSON'

Version 0.2.3

Description Converts engineering 'DWG' drawings ('AutoCAD' 2013+ format) to 'GeoJSON' entirely in-process, with no 'CAD' software, 'LibreDWG', or 'GDAL' required. Wraps the pure-Rust 'dwg2geo' conversion core <<https://github.com/milkway/dwg2geo>>: every feature carries resolved 'CAD' style metadata (layer, colour, line weight, text), skipped and failed entities are reported with reasons, and the output is deterministic: the same bytes always produce byte-identical 'GeoJSON'. Coordinates are kept in the drawing's local system; the package never guesses a coordinate reference system.

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URL <https://milkway.github.io/dwg2geo-r/>,
<https://github.com/milkway/dwg2geo-r>

BugReports <https://github.com/milkway/dwg2geo-r/issues>

Depends R (>= 4.2)

Imports cli, jsonlite, rlang, tibble

Suggests sf, testthat (>= 3.0.0), withr

Config/testthat/edition 3

Encoding UTF-8

RoxygenNote 7.3.3

SystemRequirements Cargo (Rust's package manager), rustc (>= 1.85)

NeedsCompilation yes

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Contents

dwg_as_sf	2
dwg_convert	3
dwg_core_version	4
Index	5

dwg_as_sf	<i>Read a conversion result as an sf object</i>
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Description

Parses the GeoJSON produced by `dwg_convert()` into an `sf` data frame. The geometry keeps the drawing’s **local** coordinates and carries no CRS; set the known one explicitly with `sf::st_set_crs()` before any reprojection.

Usage

```
dwg_as_sf(result, quiet = TRUE)
```

Arguments

- `result` A "dwg2geo_result" object from `dwg_convert()`.
- `quiet` Suppress the reading message. Defaults to TRUE.

Value

An `sf` object with one row per feature and the CAD style metadata as columns.

Examples

```
## Not run:
shapes <- dwg_convert("drawing.dwg") |>
  dwg_as_sf() |>
  sf::st_set_crs(31983)

## End(Not run)
```

dwg_convert

Convert a DWG drawing to GeoJSON

Description

Reads an AutoCAD 2013+ (AC1027) DWG file and converts its model-space entities to a GeoJSON FeatureCollection, entirely in-process, with no CAD software, LibreDWG, or GDAL required. Every feature carries resolved CAD style metadata (layer, color_rgb, color_index, linetype, linewidth_mm, text properties), and skipped or failed entities are reported with reasons.

Usage

```
dwg_convert(
  path,
  polygonize_closed = FALSE,
  curve_tolerance = NULL,
  quiet = FALSE
)
```

Arguments

path	Path to a .dwg file.
polygonize_closed	Convert closed polylines to polygons instead of line strings. Defaults to FALSE.
curve_tolerance	Maximum sagitta error, in drawing units, allowed when tessellating arcs, circles, ellipses, and splines. NULL (the default) uses the converter's default of 0.05.
quiet	Suppress progress messages. Defaults to FALSE.

Details

Coordinates are kept in the drawing's **local** system: dwg2geo never guesses a coordinate reference system. Georeference the result yourself: e.g. read it with [dwg_as_sf\(\)](#), set the known CRS with `sf::st_set_crs()`, and reproject with `sf::st_transform()`.

The conversion is deterministic: the same bytes always produce byte-identical GeoJSON on a given platform.

Value

A list of class "dwg2geo_result" with elements:

`geojson` The FeatureCollection as a JSON string (local drawing coordinates).

`feature_count, model_space_entities` Totals.

`converted, skipped, failed` Tibbles of per-entity-type outcomes; skipped/failed include a reason column.

`warnings` Character vector of conversion warnings.

bbox Numeric c(xmin, ymin, xmax, ymax) in drawing units, or NULL.
source_sha256 SHA-256 of the input bytes (audit trail).

Examples

```
## Not run:
result <- dwg_convert("drawing.dwg")
result$feature_count
result$converted

# to sf, with an explicitly known CRS:
shapes <- dwg_as_sf(result) |>
  sf::st_set_crs(31983) |>
  sf::st_transform(4326)

## End(Not run)
```

dwg_core_version	<i>Version of the embedded conversion core</i>
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Description

Version of the embedded conversion core

Usage

```
dwg_core_version()
```

Value

A string: the version of the Rust dwg2geo crate compiled into this package.

Examples

```
dwg_core_version()
```

Index

`dwg_as_sf`, [2](#)
`dwg_as_sf()`, [3](#)
`dwg_convert`, [3](#)
`dwg_convert()`, [2](#)
`dwg_core_version`, [4](#)

`sf`, [2](#)