

# Package: string2path (via r-universe)

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**Title** Rendering Font into 'data.frame'

**Version** 0.3.1

**Description** Extract glyph information from font data, and translate the outline curves to flattened paths or tessellated polygons. The converted data is returned as a 'data.frame' in easy-to-plot format.

**License** MIT + file LICENSE

**Depends** R (>= 4.2)

**Imports** tibble, cli

**Suggests** testthat (>= 3.0.0), vdiff

**URL** <https://yutanihilation.github.io/string2path/>,  
<https://github.com/yutanihilation/string2path>

**BugReports** <https://github.com/yutanihilation/string2path/issues>

**Encoding** UTF-8

**RoxygenNote** 7.3.3

**SystemRequirements** Cargo (Rust's package manager), rustc, fontconfig

**Biarch** true

**Config/testthat/edition** 3

**Config/string2path/MSRV** 1.88.0

**NeedsCompilation** yes

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**Config/pak/sysreqs** libfontconfig1-dev libclang-dev

**Repository** <https://cranhaven.r-universe.dev>

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**RemoteUrl** <https://github.com/cranhaven/cranhaven.r-universe.dev>

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**RemoteSubdir** string2path

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dump_fontdb	<i>Dump the Font Database</i>
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### Description

For debugging purposes, extract all font faces on the font database which 'string2path' uses internally.

### Usage

dump\_fontdb()

### Value

A tibble() containing these columns:

**index** The index of the font face within the source.

**family** The font family of the face.

**weight** The numeric weight of the face (e.g. 400 for normal, 700 for bold).

**style** The style of the face.

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string2path	<i>Convert a String to Paths</i>
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### Description

string2path() converts a text to the paths of the width-less outlines of each glyph. string2stroke() converts a text to the paths of the outlines, with the specified line width, of each glyph. string2fill() converts a text to the paths of the filled polygon of each glyph.

**Usage**

```

string2path(
  text,
  font,
  font_weight = c("thin", "extra_thin", "light", "normal", "medium", "semibold", "bold",
    "extra_bold", "black"),
  font_style = c("normal", "italic", "oblique"),
  tolerance = 5e-05
)

string2stroke(
  text,
  font,
  font_weight = c("thin", "extra_thin", "light", "normal", "medium", "semibold", "bold",
    "extra_bold", "black"),
  font_style = c("normal", "italic", "oblique"),
  tolerance = 5e-05,
  line_width = 0.03
)

string2fill(
  text,
  font,
  font_weight = c("thin", "extra_thin", "light", "normal", "medium", "semibold", "bold",
    "extra_bold", "black"),
  font_style = c("normal", "italic", "oblique"),
  tolerance = 5e-05
)

```

**Arguments**

text	A text to convert to paths.
font	A font family (e.g. "Arial") or a path to a font file (e.g. "path/to/font.ttf").
font_weight	A font weight (e.g. "normal", 400).
font_style	A font style.
tolerance	Maximum distance allowed between the curve and its approximation. For more details, please refer to <a href="#">the documentation of the underlying Rust library</a> .
line_width	Line width of strokes.

**Value**

A tibble() containing these columns:

**x** x position of the point on the path, scaled to x / line height. The left side of the first glyph is at x = 0.

**y** Y position of the point on the path, scaled to y / line height. The baseline of the first line is at y = 0.

**glyph\_id** IDs to distinguish the glyphs.

**path\_id** IDs to distinguish the groups of paths.

**triangle\_id** IDs to distinguish the triangles. `string2path()` doesn't contain this column.

### Examples

```
available_fonts <- dump_fontdb()

if (nrow(available_fonts) > 0) {
  family <- available_fonts$family[1]
  weight <- available_fonts$weight[1]
  style <- available_fonts$style[1]

  # Not all fonts can handle "TEXT" glyph. Stop here if it's the case.
  skip <- inherits(try(string2path("TEXT", family, weight, style)), "try-error")
  if (!skip) {
    # string2path() converts a text to paths
    d_path <- string2path("TEXT", family, weight, style)
    if (nrow(d_path) > 0) {
      plot(d_path$x, d_path$y)
      for (p in split(d_path, d_path$path_id)) {
        lines(p$x, p$y)
      }
    }

    # string2stroke() converts a text to strokes
    d_stroke <- string2stroke("TEXT", family, weight, style)
    if (nrow(d_stroke) > 0) {
      plot(d_stroke$x, d_stroke$y)

      # The stroke is split into triangles, which can be distinguished by `triangle_id`
      set.seed(2)
      for (p in split(d_stroke, d_stroke$triangle_id)) {
        polygon(p$x, p$y, col = rgb(runif(1), runif(1), runif(1), 0.8))
      }
    }

    # string2fill() converts a text to filled polygons
    d_fill <- string2fill("TEXT", family, weight, style)
    if (nrow(d_fill) > 0) {
      plot(d_fill$x, d_fill$y)

      # The polygon is split into triangles, which can be distinguished by `triangle_id`
      set.seed(2)
      for (p in split(d_fill, d_fill$triangle_id)) {
        polygon(p$x, p$y, col = rgb(runif(1), runif(1), runif(1), 0.8))
      }
    }
  }
}
```

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