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# YelpViz

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GitHub : [https://github.com/kulaphongj/yelp\\_api\\_wrapper.git](https://github.com/kulaphongj/yelp_api_wrapper.git)

# Project Focus

Engaging visualization of  
business-related information

# Yelp API Description and Sample



## Key Features of API:

- **Business Search:** Filter by type and location.
- **Reviews:** Access ratings and reviews.
- **Business Details:** Get comprehensive business information, photos, and transactions.

## Sample API Data:

Business Search: [https://docs.developer.yelp.com/reference/v3\\_business\\_search](https://docs.developer.yelp.com/reference/v3_business_search)

```
{
  "businesses": [
    {
      "id": "BK7Zihw8zgA-mPtgJ5Z68g", "alias": "the-fixx-cafe-and-pasta-bar-kelowna", "name": "The Fixx Cafe & Pasta Bar", "image_url": "https://s3-media1.fl.yelpcdn.com/bphoto/_EKk75v7GXRO5m9Pgpuq0A/o.jpg", "is_closed": false, "url": "https://www.yelp.com/biz/the-fixx-cafe-and-pasta-bar-kelowna?adjust_creative=zTrWZea84rw1TL1bk_H5dg&utm_campaign=yelp_api_v3&utm_medium=api_v3_business_search&utm_source=zTrWZea84rw1TL1bk_H5dg", "review_count": 55, "categories": [ { "alias": "italian", "title": "Italian" } ], "rating": 4.5, "coordinates": { "latitude": 49.8584545, "longitude": -119.491002 }, "transactions": [], "price": "$$$", "location": { "address1": "3275 Lakeshore Road", "address2": "", "address3": "", "city": "Kelowna", "zip_code": "V1W 3S9", "country": "CA", "state": "BC", "display_address": [ "3275 Lakeshore Road", "Kelowna, BC V1W 3S9", "Canada" ] }, "phone": "+12508613499", "display_phone": "+1 250-861-3499", "distance": 2429.963069437153
    },
    {
      "total": 530,
      "region": {
        "center": { "longitude": -119.46739196777344, "latitude": 49.874237132659104
        }
      }
    }
  ]
}
```

# Function 1: Search Businesses



**Purpose:** Simplify Yelp business searches and data gathering.

## 1. **search\_businesses:** (up to 50 entries)

**Purpose:** Targeted Yelp search

**Params:** api\_key, location, business\_type, keyword, offset, limit

**Function:** Fetches Yelp business listings

## 2. **get\_all\_businesses:** (necessary to get more than 50 data)

**Purpose:** Aggregates detailed business data

**Params :** Inherits search\_businesses params, adds total

**Function:** Collects specified number of results

### Sample Output:

```
{'name': 'Nara Restaurant & Sake Bar', 'address': '518 Haight St San Francisco, CA 94117', 'rating': 4.5, 'category': 'Japanese, Sushi Bars'}
{'name': "Ryoko's", 'address': '619 Taylor St San Francisco, CA 94102', 'rating': 4.0, 'category': 'Sushi Bars, Japanese, Bars'}
{'name': "Akiko's Restaurant", 'address': '430 Folsom St San Francisco, CA 94105', 'rating': 4.0, 'category': 'Sushi Bars, Japanese'}
{'name': 'Tataki', 'address': '2827 California St San Francisco, CA 94115', 'rating': 4.0, 'category': 'Sushi Bars, Bars'}
{'name': 'Sushi Goemon', 'address': '1524 Irving St San Francisco, CA 94122', 'rating': 4.5, 'category': 'Japanese, Sushi Bars'}
{'name': 'The Public Izakaya', 'address': '700 Post St San Francisco, CA 94109', 'rating': 4.5, 'category': 'Izakaya, Sushi Bars, Ramen'}
{'name': 'Saru Sushi Bar', 'address': '3856 24th St San Francisco, CA 94114', 'rating': 4.5, 'category': 'Sushi Bars, Japanese, Seafood'}
{'name': 'Kazoku Sushi', 'address': '4036 Balboa St San Francisco, CA 94121', 'rating': 4.5, 'category': 'Sushi Bars, Japanese'}
{'name': 'Kui Shin Bo', 'address': '22 Peace Plz Fl 2 San Francisco, CA 94115', 'rating': 4.0, 'category': 'Japanese, Sushi Bars'}
{'name': 'Mamanoko', 'address': '2317 Chestnut St San Francisco, CA 94123', 'rating': 4.5, 'category': 'Japanese, Cocktail Bars, Sushi Bars'}
```

## Function 2: Create Word Cloud



### Purpose:

Generates a word cloud from Yelp business data, weighted by ratings and review counts.

## Params:

'data' - Business data from Yelp search results.

### Function:

- Maps business names to weighted ratings.
- Creates a word cloud visualization.
- Displays word cloud.

### Sample Output:

```
sushi <- get_all_businesses(api_key = api_key, 'kelowna','restaurants','sushi')
create_word_cloud(sushi)
```



# Function 3: Create Geo Heatmap



**Purpose:** Visualize the price/rating/reviews heatmap on a map.

## Params:

data: Business data from Yelp search results.

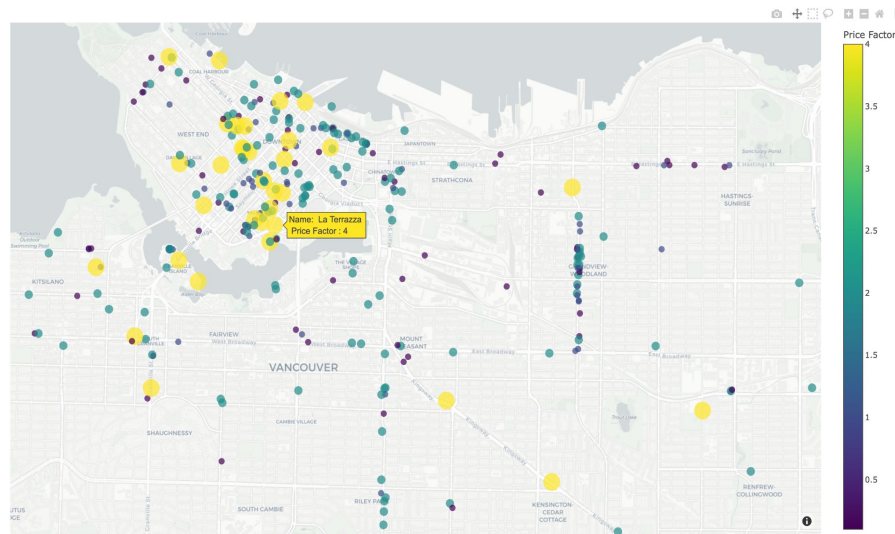
value: ('price\_level', 'rating', 'count reviews', 'weighted rating')

## Function:

Plot the heatmap of price level, rating, number of review, weighted rating on a map.

## Sample Output:

```
fig <- create_geo_heatmap(df_business, factor_plot="price_factor")  
fig
```



# Function 4: Analyze Rating Review



**Purpose:** simplify business analytics/visualization

**Sample Output:**

## 1. analyze\_cities

**Purpose:** retrieves business ratings across multiple cities

**Params:** api\_key, location, categories, limit

**Function:** aggregated ratings for location(s) visualized

## 2. analyze\_business\_sectors

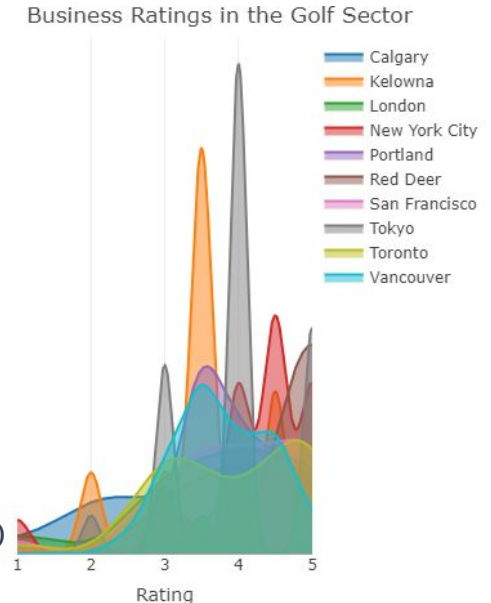
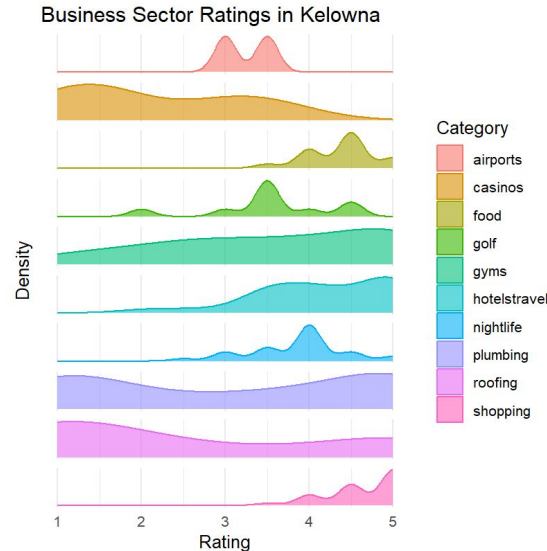
**Purpose:** retrieves business sector ratings within one city

**Params:** api\_key, location, categories, limit

**Function:** aggregated ratings for business(es) visualized

```
location <- c('Kelowna', 'Seattle', 'London', 'Tokyo', 'Calgary', 'Vancouver', 'Toronto', 'Portland', 'New York City', 'San Francisco')
```

```
result_cities <- analyze_cities(api_key, location, 'golf', 33)
```



# Behind the Scene



1. Unit testing
2. Documentation (Roxygen2)
3. Vignette creation (Vignette)



# Code Coverage



yelpviz coverage - 88.06%

| Files Source                 |  |       |          |         |        |             |          |  |
|------------------------------|--|-------|----------|---------|--------|-------------|----------|--|
| File                         |  | Lines | Relevant | Covered | Missed | Hits / Line | Coverage |  |
| R/analyze_cities.R           |  | 206   | 99       | 81      | 18     | 131         | 81.82%   |  |
| R/analyze_business_sectors.R |  | 204   | 99       | 83      | 16     | 131         | 83.84%   |  |
| R/create_geo_heatmap.R       |  | 116   | 59       | 56      | 3      | 1           | 94.92%   |  |
| R/create_word_cloud.R        |  | 47    | 15       | 15      | 0      | 4           | 100.00%  |  |
| R/search_businesses.R        |  | 33    | 9        | 9       | 0      | 4           | 100.00%  |  |
| R/get_all_businesses.R       |  | 32    | 8        | 8       | 0      | 2           | 100.00%  |  |

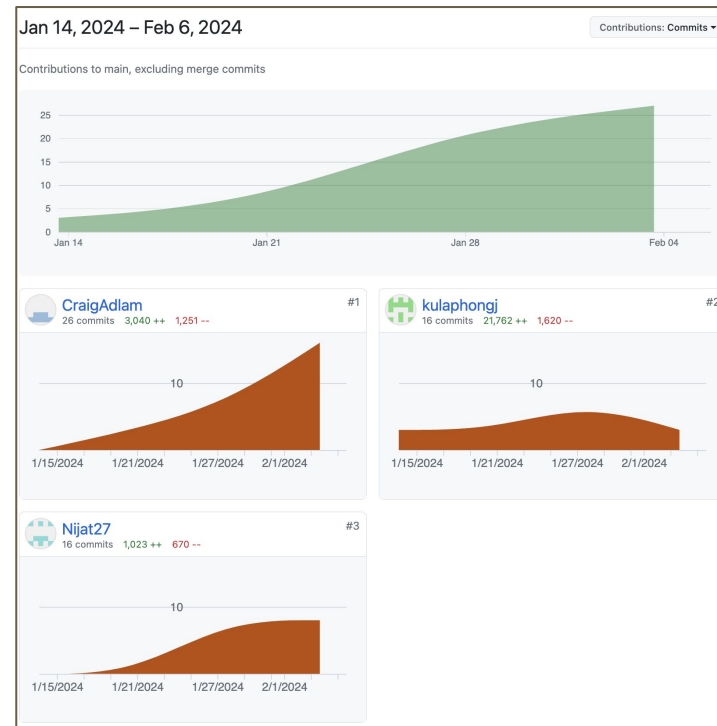
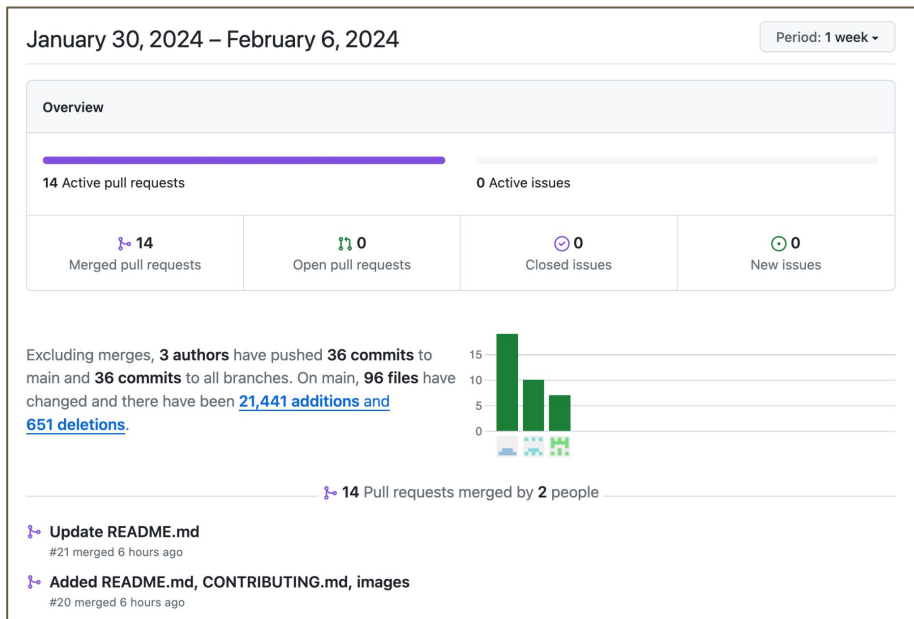
# Contribution



Nijati Abulizi: create\_word\_cloud, get\_all\_businesses, search\_businesses; presentation material

Kulaphong Jitareerat: create\_geo\_heatmap; GitHub Action, R package build

Craig Adlam: analyze\_cities, analyze\_business\_sectors; README





**Demonstration Time!**



**Thank You**