

|  |
| --- |
| Cuisines in Seattle, WA |
|  |
| October 14  Authored by: Weimin Li |



# Introduction

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A travel agency is going offer its customers recommendation to the locations (neighborhoods) for given cuisines in major neighborhoods in Seattle, WA area. The App will allow users select from a list of cuisines then recommend the top 3 neighborhoods where they can have the most choices.  There are 91 neighborhoods in Seattle area. In this project, I implemented two features:  - The customers can query the restaurants for a specified cuisine in the major Seattle neighborhoods, which have 'Seattle' in name.  - The customers can query all restaurants (limit to 50 for demo purpose) in any one of Seattle neighborhood. Data acquisition and cleaning  * Information of neighborhoods in Seattle, WA area. * The major neighborhoods in Seattle, WA area. * Information of food category name and category Id * Foursquare.com APIs and required parameters * Use BeautifulSoup tool and pandas to clean up the data   I searched online and found the neighborhood information on the wikipedia page: '<https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Seattle>'  On Foursquare.com, the API: [https://api.foursquare.com/v2/venues/categories?client\_id={{client\_id}}&client\_secret={{client\_secret}}&v={{v}}](https://api.foursquare.com/v2/venues/categories?client_id=%7b%7bclient_id%7d%7d&client_secret=%7b%7bclient_secret%7d%7d&v=%7b%7bv%7d%7d) can return food related category information. MethodologySeattle neighborhoods wikipage\_seattle = requests.get('https://en.wikipedia.org/wiki/List\_of\_neighborhoods\_in\_Seattle')  soup = BeautifulSoup(wikipage\_seattle.content, 'lxml')  tbl = soup.find(class\_="wikitable sortable")  df = pd.read\_html(str(tbl))[0]  #neighborhoods = [s + ', WA' for s in df.iloc[:,1].reset\_index(drop=True).tolist()]  neighborhoods = df.iloc[1:,1].reset\_index(drop=True).tolist()   The Major neighborhoods (the name contains 'Seattle') in Seattle area. seattle\_neighborhoods.head()    Get Categories name and Id with the Foursquare APIs[¶](http://localhost:8888/notebooks/Python%20Algorithms%20and%20Data%20Structures/Applied%20Data%20Science%20Capstone/Seattle_Neighborhood_Cuisines.ipynb#Get-Categories-name-and-Id-with-the-Foursquare-APIs)  *We only need Food catigories. Get relevant part of JSON and transform it into a pandas dataframe*   **Explore restaurants in the Seattle neighborhood**  * A function to return the name, style, and address of selected cuisine restaurants in major Seattle neighborhoods. * A function to return the first 50 restaurants with name, cuisine style, and address in a given Seattle neighborhood.   Find the restaurants of selected cuisine in the Seattle neighborhoods  Run the application feature 1- enter a cuisine name: Asian  The results are the cuisine restaurants in the neighborhoods ordered by number of cuisines to select from.  Cuisine(i.e. Asian or Italian) or Q to stop:Asian  Cascade, Seattle   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | Ba Bar SLU | Vietnamese Restaurant | [500 Terry Ave N (Republican), Seattle, WA 981... | | 1 | Phở Bac | Vietnamese Restaurant | [1809 Minor Ave (at 8th Ave.), Seattle, WA 981... | | 2 | Kigo Kitchen | Asian Restaurant | [1730 Minor Ave, Seattle, WA 98101, United Sta... | | 3 | Teinei | Japanese Restaurant | [1256 Republican St (Pontius Ave N and Yale Av... | | 4 | Vinason Pho And Grill | Vietnamese Restaurant | [2134 Westlake Ave (9th Ave), Seattle, WA 9812... | | 5 | Thai Thani Kitchen | Thai Restaurant | [201 Boren Ave N (John), Seattle, WA 98109, Un... | | 6 | Mio Sushi | Sushi Restaurant | [120 Westlake Ave N, Seattle, WA 98109, United... | | 7 | Mala & Satay | Vietnamese Restaurant | [Seattle, WA 98109, United States] | | 8 | Midori Teriyaki | Japanese Restaurant | [1120 Howell St (at Minor), Seattle, WA 98101,... | | 9 | ON THE FLY | Asian Restaurant | [950 Thomas Street, Seattle, WA 98119, United ... | | 10 | Kigo Kitchen | Asian Restaurant | [210 Westlake Ave N, Seattle, WA 98109, United... | | 11 | Yumbit Food Truck | Food Truck | [Washington, United States] | | 12 | Kaosamai Thai at Ducky's | Food Truck | [Terry Ave (btwn Denny Way & John St), Seattle... | | 13 | Yummy Box | Food Truck | [Washington, United States] | | 14 | Stop N Shop Poke Bar | Poke Place | [2121 Terry Ave Ste 104, Seattle, WA 98121, Un... | | 15 | Box Nature Sushi | Food Truck | [Boren Ave (between Republican & Harison), Sea... | | 16 | Its Bao Time! | Food Truck | [Seattle, WA, United States] | | 17 | Six Coins – SLU | Food Truck | [Stewart St. (John St.), Seattle, WA 98109, Un... |   South Lake Union, Seattle   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | Ba Bar SLU | Vietnamese Restaurant | [500 Terry Ave N (Republican), Seattle, WA 981... | | 1 | Hurry Curry of Tokyo | Japanese Curry Restaurant | [825 Harrison St (8th Ave N), Seattle, WA 9810... | | 2 | Revel SLU | Korean Restaurant | [513 Westlake Ave N, Seattle, WA 98109, United... | | 3 | Thai Thani Kitchen | Thai Restaurant | [201 Boren Ave N (John), Seattle, WA 98109, Un... | | 4 | Mio Sushi | Sushi Restaurant | [120 Westlake Ave N, Seattle, WA 98109, United... | | 5 | Sizzle & Crunch | Vietnamese Restaurant | [500 9th Ave N Ste 150, Seattle, WA 98109, Uni... | | 6 | Mala & Satay | Vietnamese Restaurant | [Seattle, WA 98109, United States] | | 7 | ON THE FLY | Asian Restaurant | [950 Thomas Street, Seattle, WA 98119, United ... | | 8 | Kigo Kitchen | Asian Restaurant | [210 Westlake Ave N, Seattle, WA 98109, United... | | 9 | Yummy Box | Food Truck | [Washington, United States] | | 10 | Hong Kong Fish Ball | Food Stand | [Seattle, WA 98109, United States] | | 11 | Box Nature Sushi | Food Truck | [Boren Ave (between Republican & Harison), Sea... | | 12 | Toi | Thai Restaurant | [1904 4th Ave, Seattle, WA 98101, United States] | | 13 | Its Bao Time! | Food Truck | [Seattle, WA, United States] | | 14 | Muay Thai Max | Thai Restaurant | [1106 8th Ave, Seattle, WA 98101, United States] |   North Seattle   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | Marlai Thai Cuisine | Thai Restaurant | [3719 NE 45th St, Seattle, WA 98105, United St... | | 1 | Toshi's Teriyaki The Original | Japanese Restaurant | [3715 NE 45th St, Seattle, WA 98105, United St... | | 2 | Sunrice | Asian Restaurant | [3513 NE 45th St, Seattle, WA 98105, United St... | | 3 | China Village | Chinese Restaurant | [3224 NE 45th St, Seattle, WA 98105, United St... |   West Seattle   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | Srivilai | Thai Restaurant | [3247 Califronia SW (SW Hinds), Seattle, WA 98... |   Cuisine(i.e. Asian or Italian) or Q to stop:Q  Find the first 50 Restaurants in a given Seattle Neighborhood  Run the application feature 2 - enter neighborhood name: Greenwood  Seattle Neiborhood Name or Q to stop:Greenwood  Neighborhood Latitude Longitude  0 Greenwood 47.690981 -122.354877  Greenwood   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | North Star Diner | Diner | [8700 Greenwood Ave N (N 87th Street), Seattle... | | 1 | Coyle's Bakeshop | Bakery | [8300 Greenwood Ave N (N 83rd St), Seattle, WA... | | 2 | FlintCreek Cattle Co. | Steakhouse | [8421 Greenwood Ave N (85TH ST), Seattle, WA 9... | | 3 | The Lodge | Gastropub | [8501 Greenwood Ave N (N 85th Street), Seattle... | | 4 | Fred Meyer Breakfast Bar | Breakfast Spot | [85th Street, Seattle, WA, United States] | | 5 | Gorditos | Mexican Restaurant | [213 N 85th St, Seattle, WA 98103, United States] | | 6 | Chaco Canyon Organic Café | Vegetarian / Vegan Restaurant | [8404 Greenwood Ave N (85th), Seattle, WA 9810... | | 7 | Chef King | Chinese Restaurant | [Seattle, WA 98103, United States] | | 8 | Valhalla Sandwiches | Sandwich Place | [8202 Greenwood Ave N (N. 82nd), Seattle, WA 9... | | 9 | Monkey Grind Espresso Bar | Coffee Shop | [518 N 85th St (at Evanston), Seattle, WA 9810... | | 10 | Diva Espresso | Coffee Shop | [7916 Greenwood Ave N (at N 80th St), Seattle,... | | 11 | Razzi's Pizzeria | Pizza Place | [8523 Greenwood Ave N (at 85th St), Seattle, W... | | 12 | Hummus Cafe | Middle Eastern Restaurant | [8420 Greenwood Ave N, Seattle, WA 98103, Seat... | | 13 | Taqueria Tequila | Mexican Restaurant | [301 NW 85th St (3rd Ave. NW), Seattle, WA 981... | | 14 | The Olive & Grape | Mediterranean Restaurant | [8516 Greenwood Ave N (at NW 85th St), Seattle... | | 15 | Chocolati Greenwood | Coffee Shop | [8319 Greenwood Ave N (at N 84th St), Seattle,... | | 16 | Gainsbourg | French Restaurant | [8550 Greenwood Ave N (at N 85th St), Seattle,... | | 17 | Istanbul Kebap Restaurant | Turkish Restaurant | [8317 Greenwood Ave N (at 84th), Seattle, WA 9... | | 18 | Urban Pizza VIP | Pizza Place | [Seattle, WA 98117, United States] | | 19 | Starbucks | Coffee Shop | [100 NW 85th St, Seattle, WA 98117, United Sta... | | 20 | Satay Bar | Thai Restaurant | [Seattle, WA 98103, United States] | | 21 | La Conasupo | Mexican Restaurant | [8532 Greenwood Ave N, Seattle, WA 98103, Unit... | | 22 | Stage Door Cafe | Café | [208 N 85th St (Greenwood), Seattle, WA 98103,... |   Run the application feature 2 again - enter neighborhood name: Broadview  Seattle Neiborhood Name or Q to stop:Broadview  Neighborhood Latitude Longitude  0 Broadview 47.72232 -122.360407  Broadview   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | Ichi Roll Teriyaki | Sushi Restaurant | [326 N 125th St, Seattle, WA 98133, United Sta... | | 1 | Domino's Pizza | Pizza Place | [302 N 125th St, Seattle, WA 98133, United Sta... | | 2 | Chada Thai | Thai Restaurant | [308 N 125th St, Seattle, WA 98133, United Sta... | | 3 | Brother John's Pizzeria | Food | [12427 Greenwood Ave N, Seattle, WA 98133, Uni... |   Run the application feature 2 again - enter neighborhood name: Bitter Lake  Seattle Neiborhood Name or Q to stop:Bitter Lake  Neighborhood Latitude Longitude  0 Bitter Lake 47.726236 -122.348764  Bitter Lake   |  | Name | Style | Address | | --- | --- | --- | --- | | 0 | Chick-fil-A | Fast Food Restaurant | [12801 Aurora Ave N (N 128th St), Seattle, WA ... | | 1 | Green Leaf Vietnamese Restaurant | Vietnamese Restaurant | [13200 Aurora Ave N, Seattle, WA 98133, United... | | 2 | HK Dim Sum | Dim Sum Restaurant | [13200 Aurora Ave N Apt F, Seattle, WA 98133, ... | | 3 | Starbucks | Coffee Shop | [13025 Aurora Ave N, Seattle, WA 98133, United... | | 4 | Rain Cafe | Café | [13200 Aurora Ave N, Suite C, Seattle, WA 9813... | | 5 | Qian Noodles | Noodle House | [13510 Aurora Ave N, Seattle, WA 98133, United... | | 6 | Pop Pop Thai Street Food | Thai Restaurant | [13242 Aurora Ave N, Seattle, WA 98133, United... | | 7 | Ivar's | Seafood Restaurant | [13448 Aurora Ave N (at N 135th St.), Seattle,... | | 8 | kiki bakery | Bakery | [13200 Aurora Ave N Apt E (130th), Seattle, WA... | | 9 | Burger King | Fast Food Restaurant | [13241 Aurora Ave N, Seattle, WA 98133, United... | | 10 | Master Chef | Chinese Restaurant | [13200 Aurora Ave N Apt D, Seattle, WA 98133, ... | | 11 | Nrgize - Temporarily Closed | Smoothie Shop | [13244 Aurora Ave N, Seattle, WA 98133, United... | | 12 | Buerjia Chinese Sauerkraut Fish | Chinese Restaurant | [13200 Aurora Ave N, Seattle, WA 98133, United... | | 13 | Style Hot Pot | Hotpot Restaurant | [930 N 130th St, Seattle, WA 98133, United Sta... | | 14 | chinese sauerkraut fish 不二家老坛酸菜鱼 | Chinese Restaurant | [Seattle, WA 98133, United States] | | 15 | Gourmet Latte | Coffee Shop | [13279 Aurora Ave N (At N 135th St), Seattle, ... | | 16 | JoyFish | Szechuan Restaurant | [13231 Aurora Ave N, Seattle, WA 98133, United... | | 17 | No.9 Alley Hotpot | Chinese Restaurant | [930 N 130th St, Seattle, WA 98133, United Sta... | | 18 | European Foods | Eastern European Restaurant | [13520 Aurora Ave N (Btwn: 135th St & 137th St... | | 19 | KFC | Fried Chicken Joint | [13450 Aurora Ave N, Seattle, WA 98133, United... | | 20 | Tully's Coffee | Coffee Shop | [13050 Aurora Ave N (inside Albertson's), Seat... | | 21 | Aurora Donuts | Donut Shop | [13201 Aurora Ave N #C (at N 130th St), Seattl... | | 22 | Yamashiro Sushi Broker | Food | [13754 Aurora Ave N, Seattle, WA 98133, United... | | 23 | Bubbleland | Coffee Shop | [13754 Aurora Ave N, Seattle, WA 98133, United... | | 24 | Asian 1 Healthy Asian Cuisine | Asian Restaurant | [13231 Aurora Ave N, Seattle, WA 98133, United... | | 25 | For Your Health | Food | [13500 Linden Ave N, Seattle, WA 98133, United... | | 26 | L' Forno Pizza, Pita & Sweet | Sandwich Place | [13000 Linden Ave N, Seattle, WA 98133, United... | | 27 | Emerald City Smoothie | Juice Bar | [13244 Aurora Ave N (in LA Fitness), Seattle, ... | | 28 | Jimmy John's | Sandwich Place | [13242 Aurora Ave N (N. 135th St), Seattle, WA... | | 29 | L'forno | Restaurant | [13000 Linden Ave N #106, Seattle, WA 98133, U... | | 30 | Prodiso Panda Kitchen | Food | [13520 Aurora Ave N, Seattle, WA 98133, United... | | 31 | Baskin-Robbins | Ice Cream Shop | [13201 Aurora Ave N, Seattle, WA 98133, United... | | 32 | Warabi Japanese Restaurant and Bar | Japanese Restaurant | [13754 Aurora Ave N, Seattle, WA 98133, United... | | 33 | green leaf restaurant | Vietnamese Restaurant | [13200 Aurora Ave N, Seattle, WA 98133, United... | | 34 | Teriyaki and Pho | Vietnamese Restaurant | [13027 Aurora Ave N, Seattle, WA 98133, United... | | 35 | UDV Dining | Restaurant | [13500 Linden Ave N, Seattle, WA 98133, United... | | 36 | Hey Ming | Chinese Restaurant | [13231 Aurora Ave N, Seattle, WA 98133, United... |   Seattle Neiborhood Name or Q to stop:Q **Results Section** The results of using the two features show the it meets the requirements.   * This application let the customers chose the cuisine information of then return the cuisine restaurants in the major Seattle neighborhoods, which have 'Seattle' in name, grouping by the neighborhood that ordered by the most cuisine restaurants found. It can be easily scaled to all neighborhoods in Seattle or other areas. * The application let the customers chose a Seattle neighborhood then return the information of the first 50 restaurants found in that neighborhood. It can be easily scaled to return all restaurants in the chosen neighborhood.  **Discussion Section** Using the Foursquare.com APIs with the data science tools, we can create many applications to help people on travel, college selection, investment, entertainment, fitness, etc. Hopefully more and more people will start to use Foursquare.com in their daily activities. Conclusion This is simple application of using some basic data science tool, such as pandas, python, BeautifulSoup, numpy, and geopy with Foursquare.com APIs and data at wikipedia.org. this is just an initial piece work that can be enhance and extend to be useful in a real world.  The most important thing I have learn is the power of data science and its huge potential in many aspects in our society. |
|  |
|  |
| To get started right away, just tap any placeholder text (such as this) and start typing to replace it with your own.  Want to insert a picture from your files or add a shape, text box, or table? You got it! On the Insert tab of the ribbon, just tap the option you need. |