

Location recommendation to setup a new office for a Japanese firm near by BTS skytrain

Bangkok, Thailand

Introduction to the problem

- A Japanese firm wants to setup a new office in Bangkok, Thailand
- They specifically want the location to be near by one of the BTS skytrains

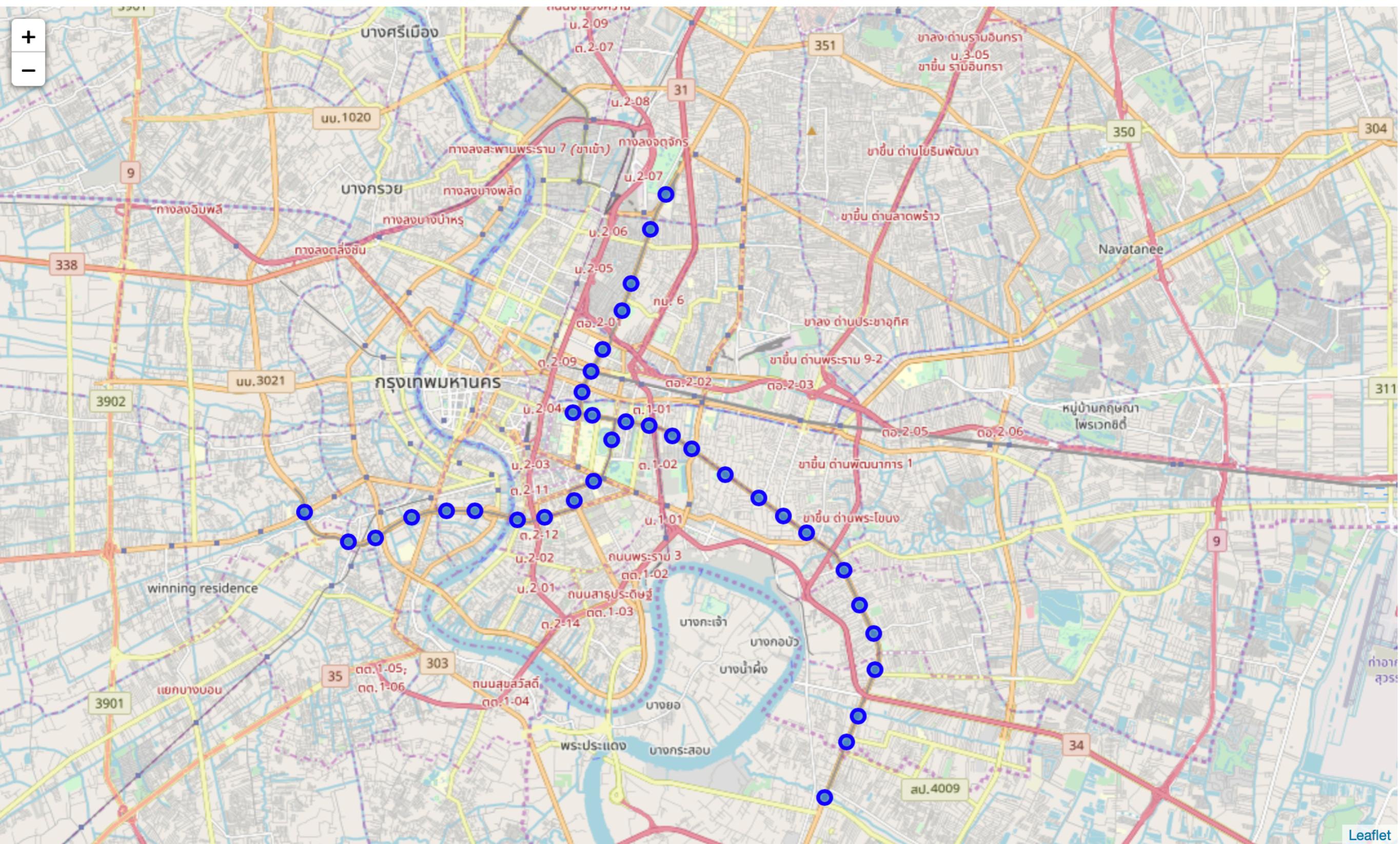
Data - BTS Skytrain Stations

BTS station locations: there are 36 BTS stations in total

- Sukhumvit Line 23 stations 24.02 km
- Silom Line 13 stations 14.67 km

Venues near by each BTS station: retrieved using Foursquare

BTS Skytrain Stations



Station location Data

	Station	Latitude	Longitude
0	Mo Chit	13.802594	100.553795
1	Saphan Khwai	13.793846	100.549749
2	Ari	13.779658	100.544615
3	Sanam Pao	13.772615	100.542093
4	Victory Monument	13.762765	100.537069

Venues near by each station

Station	Station Latitude	Station Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Mo Chit	13.802594	100.553795	Chatuchak Market Section 7 Art Zone (โครงการ 7)	13.802202	100.551757	Art Gallery
Mo Chit	13.802594	100.553795	VIVA Bar	13.801770	100.551753	Bar
Mo Chit	13.802594	100.553795	Three Brothers Barber Shop	13.802349	100.553201	Salon / Barbershop
Mo Chit	13.802594	100.553795	Koko Drip	13.802332	100.551693	Coffee Shop
Mo Chit	13.802594	100.553795	Jeed-Jard (จีด-จ้าด)	13.801513	100.551771	Som Tum Restaurant
Mo Chit	13.802594	100.553795	Section 5 (โครงการ 5)	13.800017	100.551862	Clothing Store
Mo Chit	13.802594	100.553795	จตุจักร ตลาดต้นไน	13.799622	100.550524	Garden Center
Mo Chit	13.802594	100.553795	Chatuchak Park (สวนจตุจักร)	13.806633	100.555776	Park
Mo Chit	13.802594	100.553795	Children's Discovery Museum (พิพิธภัณฑ์เด็กแห่...	13.803349	100.551002	Museum
Mo Chit	13.802594	100.553795	สวนสุขภาพเฉลิมพระเกียรติ ๓๖ พรรษา	13.803664	100.553749	Park

Top venues near to each station

Station	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Ari	Coffee Shop	Café	Thai Restaurant	Som Tum Restaurant	Sushi Restaurant	Bar	Dessert Shop	Japanese Restaurant	Noodle House	BBQ Joint
Asok	Hotel	Coffee Shop	Korean Restaurant	Spa	Thai Restaurant	Dessert Shop	Gym / Fitness Center	Burger Joint	Restaurant	Ramen Restaurant
Bang Chak	Noodle House	Café	Chinese Restaurant	Convenience Store	Hotpot Restaurant	Thai Restaurant	Flea Market	Boutique	Bike Shop	Coffee Shop
Bang Na	Coffee Shop	Gun Range	Hotpot Restaurant	Japanese Restaurant	Fast Food Restaurant	Australian Restaurant	Shopping Mall	Grocery Store	Duty-free Shop	Food
Bang Wa	Convenience Store	Thai Restaurant	Market	Pizza Place	Noodle House	Yoshoku Restaurant	Food	Flea Market	Fast Food Restaurant	Farmers Market
Bearing	Coffee Shop	Bus Station	Hotel	Furniture / Home Store	Convention Center	Convenience Store	Noodle House	Steakhouse	Yoshoku Restaurant	Electronics Store

Machine Learning Technique used

- k-means clustering algorithm

BTS Skytrain Stations - Clustered



Results

Cluster Label 2 Seems to be the most suitable for the Japanese firm to set up a new office with leading numbers of Coffee shops and Japanese Restaurants.

Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Noodle House	Convenience Store	Coffee Shop	Hotel	Thai Restaurant
1	Convenience Store	Food Truck	Thai Restaurant	Café	Factory
2	Coffee Shop	Japanese Restaurant	Shopping Mall	Fast Food Restaurant	Hotpot Restaurant
3	Hotel	Coffee Shop	Thai Restaurant	Noodle House	Café
4	Coffee Shop	Café	Hotel	Thai Restaurant	Convenience Store
5	Convenience Store	Restaurant	Hotel	Health & Beauty Service	Café
6	Convenience Store	Thai Restaurant	Pizza Place	Noodle House	Market