

Coursera Capstone

IBM Applied Data Science Capstone

Discovering rental accommodation costs in the vicinity of high-tech companies
in Dublin, Ireland

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Dublin City: Image from Bing.com – licence public domain

Introduction

Ireland is a European hub to over 1000 foreign direct companies in technology, pharma, social media, and many others. FDI (Foreign Direct Investment) in Ireland comprises around [20%](#) of all private sector employment with Dublin playing host to over 29% of that with many big names Such

as Microsoft, Google, Amazon, Facebook and LinkedIn being some of the largest employers. FDI companies employ circa [250](#) thousand people. Dublin, the capital city of the Republic of Ireland, is known the world over as vibrant and a focal point of prominent levels of foreign direct investment especially in the tech sector.



Young top talent coming out of universities in many countries are interested securing employment with these firms. However, Dublin is also well known for outrageous rental costs which may be deterrent to taking up employment. According to the Residential Tenancies Board ([RTB](#)), the state body that regulates the industry, the average cost of renting a home in Ireland in 2021 is [€1,745 per](#) month with a 2.1% increase year on year.

CSO statistical publication, 15 April 2021, 11am

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Table 1.1: Residential Property Price Index

Month	Price Index (2015=100)	Monthly % change	Annual % change
November 2020	136.2	0.7	0.4
December 2020	137.2	0.7	2.3
January 2021	137.8	0.4	2.6
February 2021	138.3	0.3	3.0

The latest three month's RPPI results are provisional and subject to revision.

Problem

Companies such as Microsoft, Google, Facebook, Amazon, Twitter & LinkedIn which all based in Dublin, are always looking for skilled, educated and highly capable people from all over the world. This project is aimed at potential hires researching the cost of living in Dublin before they apply for advertised role.

The objective is to simplify the discovery of rental accommodation availability, type and cost and desirable social venues within a 2-kilometre radius of the potential employer's location.

Data Required

To cluster rental accommodation and social venues around specific employers in Dublin, the following data is needed:

1 Companies' names and address

For this project I have selected Microsoft, LinkedIn, Amazon, Google, Twitter & Facebook all of which are based in Dublin and will use their business addresses to obtain their latitude and longitude.

2 Rental Accommodation

There are two primary sources of information for accommodation both rent and sale: <https://www.daft.ie> and <https://www.myhome.ie>. Daft.ie prohibits web scraping and does supply an API which requires payment for use. MyHome has no API, web scraping is permissible hence. This sole source of information on rental accommodation unfortunately represents only a portion of the entire market.

3 EIRCODE

An Eircode is Ireland's equivalent of a modern postal code. It's a very precise unit represent the exact location of an address. Accommodation addresses from myhome.ie don't always have an Eircode. For each instance, I will use [Eircode](#) to get the code associated with the addresses which can then be used to get the exact latitude/longitude of the address in question.

5 Foursquare

Foursquare will supply the selected venue types, names and latitude/longitude within a pre-defined radius of each employer location.