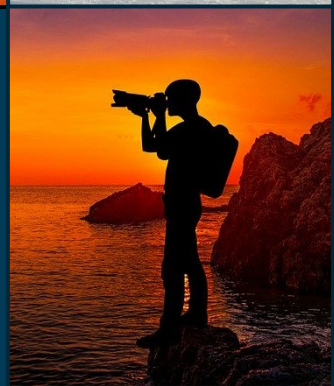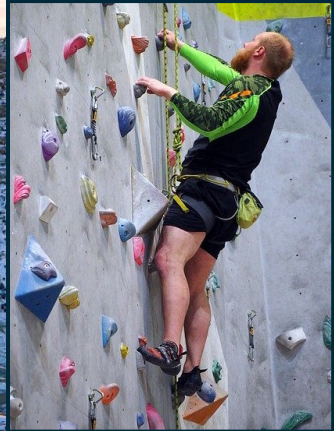# EXPAT ADVICE: IRELAND TO USA

DECEMBER 18

LC Data & Photography
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Expat Advice:

Relocating from Ireland to USA

IBM Data Science Capstone Project

Background of the project:

> Since November 2019, I have been studying the IBM Data Science Professional Certificate course series via Coursera. This is my final project for the 9th course: Applied Data Science Capstone.
> The first part of the report consists of an Introduction and a description of the Data that will be used to solve the problem.

> "A JOURNEY OF 1000 MILES STARTS WITH A SINGLE STEP."
>
> LAO TZU

Introduction

The Cleirigh family wants to relocate from Ireland to the USA. They wish to find the best place to live for all of them, together. Let's summarize their needs and wishes:

- ➢ **Mother Kayleigh** is a professional photographer specialized in private, all-inclusive luxury photography workshops. She would like to live somewhere close to a national park. The park should not be too crowded; on the other hand, there should be suitable hotels and restaurants for the clients.
- ➢ **Father Brian** is a passionate climber. He would like to live close to some nice rock-climbing area. Except of that, he wants to build a climbing gym specialized in youth training courses. Needless to say, it would be easier in a place where there are not yet many climbing gyms around.
- ➢ Their **son Sean** is a very bright student and a multi-talented athlete. He is in his final year of secondary school and wants to go to a top university, preferably one with a higher ratio of international students.
- ➢ **Daughter Orla** attends primary school. She loves animals and figure skating and therefore, she wants to live close to some zoo exhibits and a skating rink.
- ➢ **Grandmother Shauna** is a passionate cook and an art lover. She wants to start her own Irish pub and thus, she would prefer a place without an abundance of Irish pubs or restaurants. In her free time, she loves to visit museums and art galleries.

Audience

Except of the Cleirigh family themselves, this study can be interesting for any of the following groups:

- ➢ students who want to attend one of the top universities in the USA;
- ➢ landscape photographers, both professional and amateur;
- ➢ tour operators as well as individual tourists and rock climbers interested in visiting national parks;
- ➢ art lovers;
- ➢ anybody who is interested in a sophisticated approach to finding a suitable place to live.

Data

In the Introduction, we have seen that the needs and wishes of the Cleirighs are very diverse. In this section, I will present the data that can be used to identify the most suitable living place(s) for the Cleirighs.

Top universities in the USA

To identify the top universities in the USA, I will use one of the well-known university rankings, the recently published *Times Higher Education World University Rankings 2020*, available via https://www.timeshighereducation.com/world-university-rankings/2020/world-ranking.

The ranking is based on 13 indicators, including **Rank**, **Name**, **Country/Region**, **No. of FTE students**, **No. of students per staff**, [percentage of the] **International students**, **Female:Male Ratio**, as well as the **Overall**, **Teaching**, **Research**, **Citation**, **Industry Income** and **International Outlook** scores.

The geographical coordinates of the universities can be retrieved via the ArcGIS API using the Python's geocoder library.

National parks in the USA

All the necessary information about the national parks can be found in the Wikipedia's *List of national parks of the United States*, available via https://en.wikipedia.org/wiki/List_of_national_parks_of_the_United_States.

For each of the 61 national parks, the data consist of the **Name** of the national park, an **Image** (a photograph showing a landscape typical for the park), **Location** including the state and geographical coordinates, the **Date** [when the park was] **established as** [a national] **park**, the park's **Area (2018)** in acres as well as km^2, the number of **Recreational visitors** (2018) and a **Description**.

The geographical coordinates of the parks will be combined with the geographical coordinates of the universities to reveal their mutual distance.

The ratio of the park's area and the respective number of visitors can be used as an indicator of crowdedness.

FOURSQUARE

The location data platform Foursquare will be used as a valuable source of information on the remaining aspects.

For each university, I will explore its surroundings to find out information about rock-climbing areas, climbing halls, zoo exhibits, skating rinks, Irish restaurants and, last but not least, museums and art galleries.

For each national park, I will explore whether there are any suitable hotels and restaurants close to the park.

Finally, I will combine all the above-mentioned information to find the most suitable place for the Cleirighs to relocate to.