**Applied Data Science Capstone Report**

**The Battle of Neighborhoods in Nashville: Opening a New Pet Store**

**Week 1:**

**Introduction/Business Problem**

The American Pet Products Association (APPA) estimates that within the year, $75.38 billion will be spent on pets in the United States alone. The pet services market, which includes grooming, boarding, training, and care has been the fastest-growing product segment under the industry umbrella. As such, an eCommerce-based Pet retailer has decided to open their first brick and mortar store in the Nashville metro area as part of their new business strategy.

The retailer has invested funding for a deep dive into location data analysis to determine which neighborhood in Nashville would be the most suitable for the new store. As the retailer is leaning into the pet services market, they feel that their best strategy is to seek a location in higher density areas where consumers typically frequent for shopping and entertainment. This analysis will include Foursquare location data, where we will dig deeper into locations with a high density of restaurants and grocery stores, as well as look into locations of other pet stores to avoid opening too close to a competitor. We will utilize these tools to make data-driven decisions about these neighborhoods.

**Data**

As stated in the introduction, listed below are the characteristics of a neighborhood that will influence the location chosen:

* The frequency of existing restaurants in the neighborhood
* The frequency of existing grocery stores in the neighborhood
* Any nearby pet stores, which would be competition

We will use the below data sources to extract, generate, and analyze the required information:

* List of all neighborhoods in the Nashville metro area, and their corresponding ZIP Codes and coordinates
* Source: <https://public.opendatasoft.com/explore/dataset/us-zip-code-latitude-and-longitude/export/?refine.state=TN> – Includes ZIP codes, city, state, and coordinate data
* Source: <https://nestinginnashville.com/buying-a-home-in-nashville/zip-code-map/> - Includes Nashville neighborhood names and ZIP codes
* Frequency of restaurants, grocery stores, and pet stores in each neighborhood (Foursquare API)
* Coordinates of all venues (GeoPy Nominatim)

**Week 2:**

**Methodology**

**Analysis**

**Results and Discussion**

**Conclusion**