The Ditchley Foundation – 'Bridging Divides with the Ditchley Foundation'

Creating and treasuring connections – using Neo4j to make sense of Ditchley's social networks

Tabita-Gabriela Juravle | **BA (Economics & Social Studies) Politics**

Figure 1 – *Screenshot of Ditchley's motto.*

Overview of the Data Fellowship

The Ditchley Foundation aims to bring together people from various backgrounds to discuss global issues. To make such discussions possible, Ditchley's team relies on an extensive database of social connections, organising themed conferences. As an intern, I had the opportunity to sustain these networks by focusing on three objectives: categorizing the existing networks, researching new connections, and analysing Ditchley's database using Neo4j.

Data Analysis

The scope of the project was to make sense of Ditchley's database by using Neo4j and, in my case, Excel. Neo4j is a graph database system whose primary interface is the Cypher query language. Ditchley has created a database in Neo4j where it has stored different bits of information on their existing contacts (e.g., name, education, job, expertise, etc.), constantly updating it with new contacts. The interesting part is that these contacts are tied to sectors (e.g., private sector, university, NGO, etc.) and themes (e.g., politics, environment, etc.). Neo4j is helpful when one has a specific interest about the database. For instance, how many contacts are in the Politics sector at Ditchley? By writing a fairly simple line of code in Cypher, Neo4j produces either a graph or a table which contain the relevant information about those contacts. These can also be exported in Excel for further analysis.

Findings

- The team of interns has worked to come up with various ideas for conferences, matching the contacts stored in Ditchley's database based on their expertise in different domains.

- I have created visual presentations on different queries in Neo4j Bloom, promoting the ways in which it could be used by Ditchley in the future. For instance, *Figure 2* offers information about people in the database related to the Politics theme. It explores the number of people connected to centrist, right-wing, and left-wing political thought. Currently, in the Ditchley database there are more people under the right-wing political thought than left-wing, and when it comes to those two clusters of people connected with both centrist and either right-wing or left-wing political thought, the leaning is centrist right-wing.

Key Skills Learnt

This internship was a great opportunity to improve my quantitative analysis skills. I have learnt how to store, handle, and analyse data in Neo4j Standard, Neo4j Bloom, and Excel. Before the internship at Ditchley, I had little to no experience of working with any statistical software. Now, I can translate questions into code and interpret their outcome. The experience of working with a programming language helped me understand how to efficiently write queries in order to get the desired outcome.

Also, I have learnt how to successfully communicate the outcomes of my queries to an audience that is not familiarized with Neo4j. I have done this by using Neo4j Bloom, putting together visual representations of queries. At the end of the internship, I had the chance to present in front of an audience that had no previous knowledge of Neo4j and Cypher. It was an effective way of learning how to adapt my language, making it easier for the audience to understand the graphs.
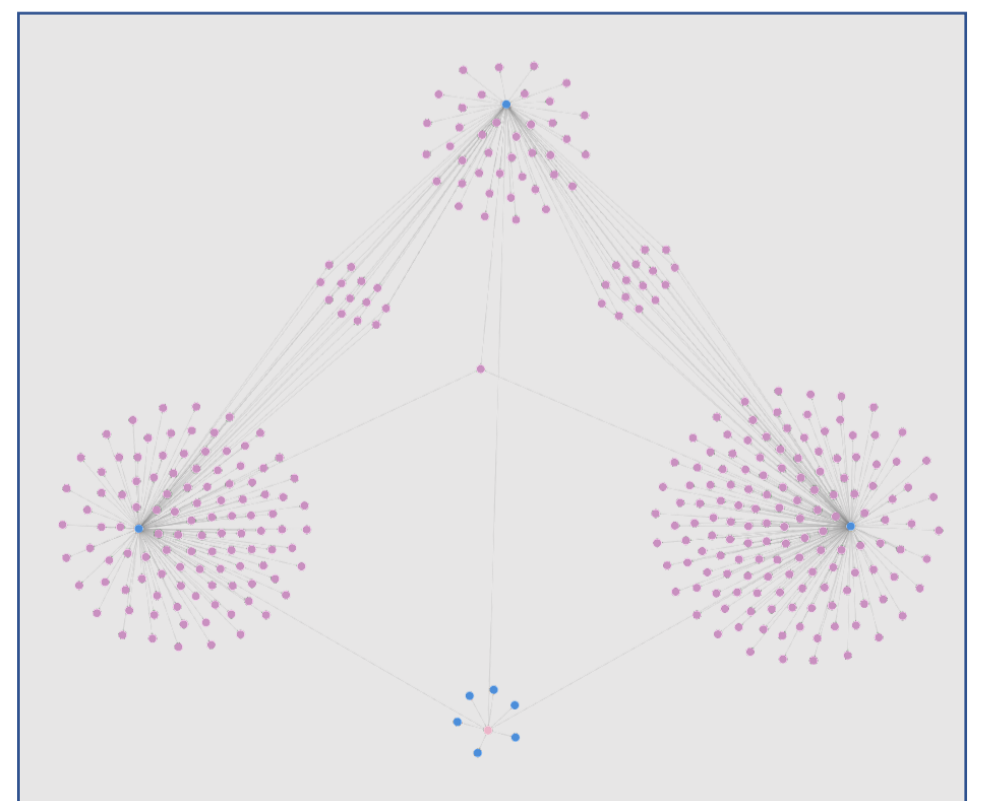

Figure 2 – *Screenshot of graph produced in Neo4j Bloom.*