

## Maheen Siddiqui, uMotif



*'Previously, I was pretty sure that I would stay in academia as I quite enjoy research. At the moment I'm still not sure whether I would like to stay in academia or not, but I do know that if I ventured out, that Data Science is a field that I would enjoy working in.'*

My background is in Mathematics – I have a BSc Mathematics degree and an MSc Applied Mathematics degree. Data Science was a field that I was always interested in exploring but the context never seemed very interesting to me. When I came across a Data Science role in a healthcare company, it was almost like a fusion of two things I was quite interested in and decided to go with the placement.

My placement was at uMotif which is a digital healthcare company that provides a patient data capture platform in the form of a mobile phone app. In 2016, uMotif launched a global study “100 For Parkinson’s” where people with Parkinson’s disease and without tracked their health on their smartphone for 100 days. This resulted in the generation of a large complex dataset consisting of over 2.2 million data points and 4218 participants.

My role at uMotif was that of a Data Scientist and it involved using advanced statistical analysis techniques and machine learning to analyse the 100 For Parkinson’s dataset and to explore hidden patterns in the data. Various questions were posed by uMotif to use the dataset to a) understand the Parkinson’s population better and to discover potential digital biomarkers of Parkinson’s and b) to utilize the dataset to understand how uMotif as a company could improve participant/patient retention in future studies.

Towards the end of my placement, I had the chance to convert a complex network graph into a powerful and engaging info graphic for the 100 For Parkinson’s end of study press release: <http://umotif.com/news/the-dataset-from-100-for-parkinson-s-exceeds-2-2-million-data-points>. This was quite fun and rewarding, to have a physical outcome of my work that was shared with the participants of the study.

I gained a lot of experience working with “Big Data”. The first thing I learned was MySQL which is a database management system, in order to be able to query the data that I needed

to work with. I completed a Machine Learning course to grasp the basics of Machine Learning. I then learned how to use the Machine Learning and Statistics toolbox in Matlab, R and the Amazon Web Services Machine Learning console. I also learned how to use Tableau – a brilliant data visualization software program, which helps visualize complex data.

Honestly, at times the work placement felt extremely challenging and I felt as though I would not be able to accomplish much or meet the expectations of my placement supervisors. Persevering through it however, I learned that I sometimes underestimate myself and can actually pick up difficult concepts quickly and meet expectations.

When thinking about whether the placement influenced my career decision I would say yes and no. Previously, I was pretty sure that I would stay in academia as I quite enjoy research. I also wasn't sure whether there was anything out there for me that I would actually enjoy. At the moment I'm still not sure whether I would like to stay in academia or not, but I do know that if I ventured out, that Data Science is a field that I would enjoy working in.

*For more information, please contact Maheen Siddiqui directly: [maheen.faisal.14@ucl.ac.uk](mailto:maheen.faisal.14@ucl.ac.uk)*

## Top Tips for other PhD students?

1. Make sure you sit down and think about where exactly you would like to work or what you would like to do. It may not be immediately clear so start with something really basic and build from that. For example, if I had not gone down my current career path, I would probably be a doctor or be working in healthcare in some capacity. With that in mind, when I was brainstorming for my PIPS, I tried to look for healthcare related roles until I found something that interested me.
2. Don't be shy when contacting companies, the worst that can happen is that they won't reply. I got my work placement by sending a message through a generic "Contact Us" form on the company website!