

Dear Lancaster University Admissions team,

My name is Sean Paterson and I am a recent graduate who achieved a first class honours degree in Computer Science from Manchester Metropolitan University and I am applying for a place on the Data Science master's course.

First of all, I would like to thank you for taking the time to read my application and for considering me for a place at your university.

The key reason for me wanting to study Data Science at masters level is because my career goal is to conduct research within the areas of machine learning and data analytics whether at a university or within industry. In order to achieve this goal, the first step I must take is to complete a master's degree which would then allow me to take a Ph.D., and I feel that Lancaster University is the best place for me to achieve this goal.

My main interest within the subject of computer science is focused around Machine Learning. It was during my final year at university that I discovered my interest in this area. In particular, it was my dissertation, which involved the research, design and implementation of fuzzy decision trees for classification problems, which really solidified my interest in the subject. I also covered various different Machine Learning algorithms in the Artificial Intelligence unit of my final year, such as Artificial Neural Networks, Bayesian Networks, and Decision Trees. Learning about some of the different algorithms available to solve Machine Learning problems as well as how the effectiveness of these algorithms can be improved by means such as Fuzzy Logic has made me more curious about exploring the subject further with the aim of gaining as much knowledge on the subject as possible and I believe that the course on offer at Lancaster University will allow me to do so.

My aim is to embark on a career that involves Machine Learning whether completing academic research or within industry for real world applications. As I know which area I wish to specialise in, I feel that the course offered by Lancaster University is best suited to my needs as it allows me to create a tailor-made course by choosing different units that are of interest such as Building Big Data Systems, Applied Data Mining, and Distributed Artificial Intelligence.

The different research groups are another big attractor to Lancaster University. From the reading I have done, their research in the fields of Artificial Intelligence is world leading. I am especially interested in the work being done by the Data Science Group, specifically the paper one Integrated Deep Model for Face Detection and Landmark Localization From "In The Wild" Images which demonstrates how two networks can be combined to yield better results in face detection. I am also extremely interested in the research being conducted involving fuzzy logic, such as Correntropy-Based Evolving Fuzzy Neural System and Self-Organising Fuzzy Logic Classifier, since that was the focus of my dissertation.

If accepted onto the course, I would like to undertake my master's project with the Data Science Group. Hopefully by supplementing the course materials with my own additional learning in the subject, where I would be able to contribute some new and exciting research ideas to the group...and possibly even the world!

Since graduating last July there are projects I have been working on in my own time in order to continue improving my programming abilities. The first is building a website for a company called EcoLogistics which was founded by a school friend. The purpose of the website is to provide a platform for engineers and designers to share patents, with a focus on being sustainable and relatively cheap

to build, which can be used to improve quality of life for people in developing countries. Providing there are no major setbacks we aim to have the website launched by late-2019.

Also, since viewing the different courses that are available with this degree it is apparent that I will need become a confident programmer with R as this is a requirement for a lot of the units I find appealing, such as Extreme Value Theory and Multi Level Models. I will also need to spend time revisiting various areas of mathematics such as Probability Theory, Linear Algebra, and Statistics. I have previously covered all of these topics either during my A Levels or in my 1st year at university as part of the Computer Systems fundamentals unit but I will have to revisit them so I would be able to complete the units I find most interesting.

Once again, thank you for taking the time to read my application. I hope you consider me to be a suitable candidate for the Computer Science and Advanced Data Analytics master's course and I look forward to hearing from you.

Yours sincerely

Sean Paterson