I am an enthusiastic continual learner of mathematics and science and I have a great passion for puzzle solving. I have studied and practiced, both with professional training and self-taught, many different fields requiring mathematical skills, from meteorology to quantitative finance to data science. I just love them all because they all offer me different types of problems to use my problem solving and finding skills. I am curious about new scientific topics and discoveries and am always eager to try out new numerical tools and techniques.  I can work on a solution to a problem for many days by myself, but I am equally at ease brainstorming ideas and working towards the goal in a group.

The type of problem or puzzle that holds the most appeal for me are those requiring to identify or see a trend or pattern. I enjoy looking at large data sets to see if I can find trends or pattern then trying to find some mathematics to describe it and how it might change over time or with changing initial conditions. I have done this type of work as part of my Ph.D. thesis when after identifying some known trends for turbulent airflow separation I modeled it mathematically using a “radical” but innovative approach.

My first “serious” training was to be a classical pianist. I started when I was about 5 years old. When I practiced a piece of music, I could envision or sense its underlying pattern or structure and I played the piece according to how I felt the pattern should evolve. Unfortunately, I did not have the natural technical skills to move beyond giving a few private recitals. Because of this love for patterns and trends, I first studied Pure Mathematics in college. But I eventually became weary of writing “beautiful” proofs and wanted to know real world applications for them. I did courses in physics and completed my M.Sc. and Ph.D. in Earth and Space Science because I found weather patterns fascinating and appealing. I became interested in Quantitative Finance after my marriage – I was helping to manage the family investment portfolio – because it is essentially looking to capture random, fluctuating movements using mathematics just like that for turbulent airflows which was the focus of my graduate degrees. From there my interest moved to Data Science and Machine Learning which is natural extension from Quant Finance. And I am really enjoying all the tools that goes along with it, particularly the visualization tools because I tend to think quite visually.

I include my latest “hobby” project which was taken from the Data Incubator website as practice for the coding challenge they use to screen the applicants into their top program. It is a relatively straight forward problem of a knight chess piece moving randomly on a telephone keypad, but I have extended it to look further.

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