

Underwriters want to know when a particular vehicle is going to crash. Marketing is asking who we should offer a direct mailing campaign to offset those losses. Similarly, TiVo wants to estimate churn on their existing customer base. DSW wants to group customers (called Clustomers) into like buying habits for targeted marketing efforts. Whether you're selling insurance, shoes, or DVRs, everyone wants to know the same thing with a glaring commonality and Data Science is the key. It is during my time working with these companies as an Actuary and Solution Architect that I discovered that each of these industries are asking the same questions, just using different vocabulary aligned to their industry.

I discovered my passion for Data Science in 1995 while in High School, before Data was a science. I wanted to pursue my passion for understanding and analyzing data so I studied Applied Mathematics and Computer Science at Virginia Tech. My education was a springboard into a career of math and massive computer processing, namely Actuarial Science. My coursework in Statistics, Calculus, Linear Algebra as well as my strong programming foundation for repeatable processes and machine learning allowed me, as an actuary, to improve upon predictive modeling.

While it was a fulfilling start to my career, I decided to leverage my skills and transition industries, into High Tech Manufacturing. The transition has allowed me to add further breadth to my skillset. As a Solution Architect, at Teradata I've had the opportunity to work closely with industry leaders and top talent in the Bay Area. Daily, I work hand-in-hand with companies like Apple, Symantec, Cisco, eBay, Flextronics, and others. I am a trusted advisor and liaison between business and IT. My role is to provide guidance on the best techniques and business intelligence tools to solve the most pressing problems.

One of my favorite projects was working with a small company in the Pacific Northwest, changing how to monitor DC power usage in Data Centers. They created and implemented a small sensor on every piece of equipment connected to power to determine better breaker amperage selection. I developed their logical and physical database design keeping in mind future data usage with the ability to answer questions not thought about that particular day. I implemented, in phase two of the project, the integration of R to be able to predict a failure of a single component based on internal historical data, external sources including local weather patterns, and rolling blackout predictions from the external power grid.

The competitive landscape is continually growing, especially with emergence of open source Hadoop, MongoDB, Cassandra, etc. There are hundreds of options to store data in any format that suits the underlying structure, or lack thereof. The difficulty that I find in today's ever changing landscape of technologies is the idea of an underlying silver bullet in architectures that is going to solve all problems.

I believe that most companies don't have an issue with technology; rather it's an absence of formidable talent to mine the petabytes of data within their IT infrastructure. Millions of dollars are spent by a single company on acquiring new physical hardware, transitioning physical data, rewriting stored procedures, changing ETL paradigms, and retraining business users on the new syntax of the technology. All of this in the hopes that a glowing red easy button will rise from the middle of the Data Center and tickertape will start immediately producing the answer on how to become more profitable.

It's not technology, but knowledge and experience to find the gems to unlock the true potential of heterogeneous data sources and integrate them into one cohesive result. Looking at the offerings at Elmhurst, I believe that you have positioned your program with real world application in mind, as I see an immediate value of every course in my daily work. It's easy to store data, but the true value comes in creation algorithms or mathematical models and being able to intelligently display and know what the results mean.

I'm appreciative that I was given the opportunity to express my enthusiasm for the field that is my passion in this essay, where most of these thoughts otherwise would have remained unspoken. I am hopeful that my successful career, positive recommendations, and zealous enthusiasm of Data Science will allow me to be considered to join such a tremendous program.

I have accepted a new position as a Consultant focusing on Information Management and Analytics to begin in June. With the explosive growth of the discipline, a portion of my efforts are to spearhead the firm's Data Science practice and help set standards and best practices. The leadership and knowledge gained from Elmhurst will be paramount in the success of both the firm as well as my longevity in the Silicon Valley.

Thank you for your time and consideration, I'm optimistic that my experience and education will allow me the opportunity to continue my education in your prestigious institution.