Welcome to the incredibly exciting field of business data analytics.

I've worked in this industry for 20 years and I've never been bored and you won't be either. The next 20 years will be even more exciting as the true potential of a single, global, big data analytic culture is realized.

I'm a neuroscientist who studies big data in the brain. I work with all kinds of data sets. Now I'm applying statistical techniques and the problem solving techniques we discovered in the brain to business. And it's been really fun for me because it turns out that many of the analytical challenges we have in science are now the same analytical challenges we have in business, thanks to the big data ecosystem. The same skills that we used for getting a paper published in science are the same skills we use for presenting something to an executive. It's all about critical thinking, data wrangling, and communication.

I've created new data analytics technologies as an inventor and an entrepreneur. And I've helped others realize their dreams in business analytics as a venture capitalist. And for the past six years, as a teacher in Duke's globally known Master of Engineering Management program. Our focus here is practical, how to help you harness data to create positive change.

Big data in the business world is just shorthand for the idea that everything we used to write down, thing like product invoices, doctors prescriptions, are now electronic and stored in a computer. That means they can be searched, explored, analyzed, and, perhaps, exploited.

The cost of storage for electronic data has become so low that there is no money to be saved throwing it away. Most of this data will not prove useful but clever people will spend the next 20 years finding new ways to use portions of it to create economically valuable products and services. Or to extract a temporary or lasting informational edge, a meaningful competitive advantage for the products and services they already sell. No commercial for-profit company that is in a competitive market can remain profitable or even survive over the next five years without incorporating best practices for business data analytics into their operations.

Making efficient use of all this big data requires understanding the full life cycle of a data problem. This life cycle includes assembling the data, cleaning it, analyzing it, and communicating to people what it means. The world needs people who can not only navigate this entire cycle but also integrate and translate the language, all the people who contribute to it, from programmers to statisticians to communications specialists to business domain experts. Such people have been called unicorns believe it or not by the popular press and that's because it seems hard to imagine that all these skills could possibly be mastered by one person.

Well, we are here to tell you that all of these skills can be mastered by one person. And this specialization is designed to help you to take your first steps toward becoming your own personal big data unicorn. By the time you tackle the capstone project, you will know fundamental business concepts and problem solving skills to help you navigate the big data ecosystem, as well as the most important tools for business analytics. Including data modeling in Excel, understanding and communicating data using Tableau, and assembling data using SQL.

Some of you may already know some of this material, but we are interested in bridging the gap and helping you all to become translators. We want to help business people with no technical background get comfortable with data. And we want to help people with prior technical background get comfortable asking the best types of business questions.

We both believe that big data analytics is one of the most rewarding fields you can be in no matter what your technical background. The most exciting developments lie in the future. Thank you for embarking on this journey with us.