

Data Science Blessing of 21st Century

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Abstract - In this paper, we have listed some of the most common applications of data science that we use in our day to day lives. Along the side you'll also find some advanced applications which are yet to come in near future. The aim behind sharing them is not to tell you the methodology used in these cases – it is even more foundational in nature. I want to examine the impact data science in making and exhilarate you about what is reserved for future.

Keywords: data science, applications, artificial intelligence

I. INTRODUCTION

Data science is the field of study that combines domain expertise, knowledge of programming, and skills in math and statistics to derive meaningful institution from data. Data science specialists apply machine learning algorithms to numbers, text, images, video, audio, and more to produce artificial intelligence (AI) systems that perform tasks which ordinarily require human intelligence. In turn, these systems generate insights that analysts and business users translate into real business value.



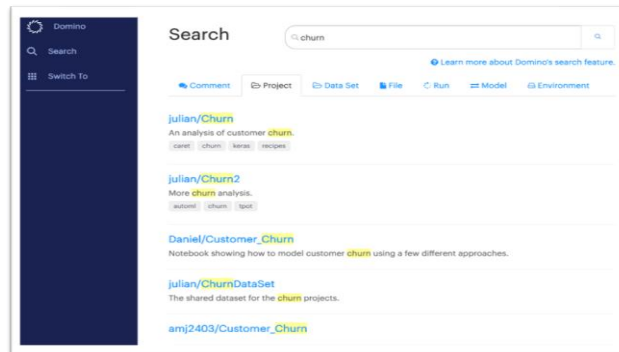
II. WHY IS DATA SCIENCE IMPORTANT?

Have you ever looked for shoes online and found related advertisements on Face book and other websites continuously for a week? Or say, you're chatting with your best friend and the keyboard suggests you the exact words that you want to use in your sentence? How does YouTube show all your favorite videos on your home screen?

Well these are all the applications of Data Science. Over the last few years Data Science has really changed our concept of technology. I see our lives a lot easier as compared to 10yrs ago, and this is all because of data science. Data Science has really pulled the ends between fiction and technology. Right from LinkedIn to Face book, data science is being used everywhere. These happen to be the technological applications of Data Science. Now let's look at some of the business applications of Data Science.

Data Science is successfully adding value to all the business models by using statistics and deep learning to make better decisions and improve hiring. It is also being used to crunch the previous data and predict possible situations and risk so that we can work on avoiding them. Moreover analysis of this data can really help set a workflow. Now imagine your routine without the above mentioned facilities? Soon data science plans to be at the core of the digital world. But you need to understand that Data Science is only to make our lives simpler and not replace things. Data Science might make technologies that can perform a medical operation without scissors but it can never make technologies that can perform a medical operation without a doctor. Personally I feel data science is just flourishing and the world will be entirely different in the coming 10yrs for which data science is going to play a major part.

Internet Search: When we speak about search, we think ‘Google’. Right? But there are many other search engines like Yahoo, Bing, Ask, AOL, Duckduckgo etc. All these search engines (including Google) make use of data science algorithms to product the perfect result for our searched query in fraction of seconds. Considering the fact that, Google provides more than 20 petabytes of data every day.



Digital Advertisement : Digital advertisement have been the biggest application of data science and machine learning, here it is a challenger for the entire digital marketing spectrum. From the display banners on various websites to the digital bill boards at the airports – almost all of them are decided by using data science algorithms. This is the reason why digital ads have been able to get a lot higher CTR [click through rate] than traditional advertisements. They can be picked out based on users past behavior.

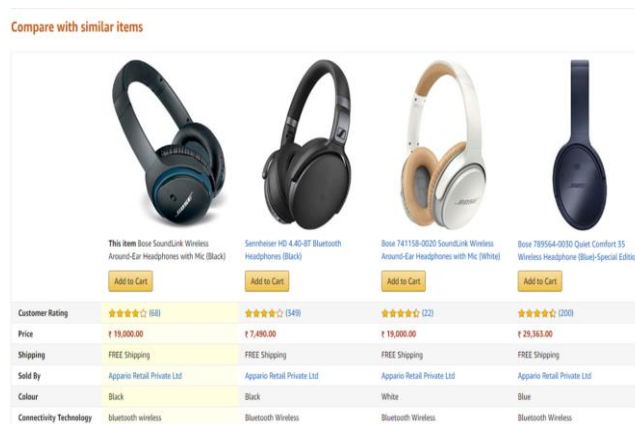
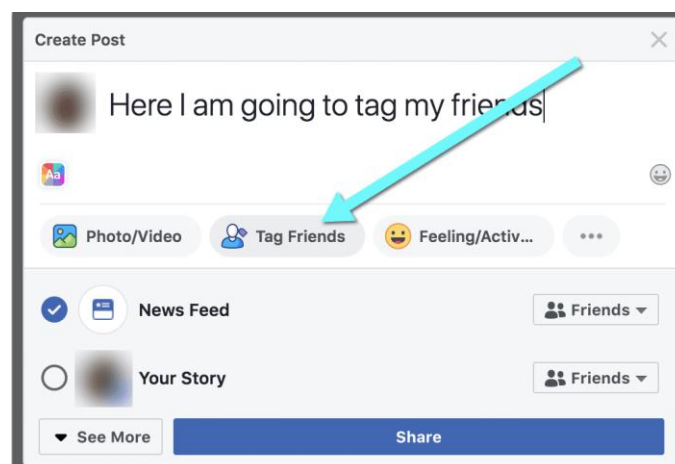


Image Recognition: Imagine that you upload your image with friends on Facebook and all sudden you start getting suggestions to tag your friends. This automatic tag suggestion feature uses face recognition algorithm. Similarly, while using share it web, you scan a barcode in your web browser using your mobile phone. These are the major applications of data science



Speech Recognition : Speech recognition is used in the area where you cannot type the message and the entire world of you wouldn't stop. You can just record the message and the message would convert into text and these can be done with apps like Google Voice, Siri, and Cortana.etc. This is also the din of the major applications of data science.



Gaming : Now day's games are designed with machine learning algorithms to upgrade themselves as player to high levels. EA Sports, Zynga, Sony, Nintendo, Activision-Blizzard has led gaming experience to the next level using data science. In motion gaming there is advantage that your opponent (computer) analyzes your previous moves and accordingly shapes up its game.



Price Comparison Website : At a foundational , these websites are being operated by lots and lots of data which is fetched using APIs and RSS Feeds. While using these websites, we would know the comfort of comparing the price of a product from multiple vendors at one place. Price Grabber, Price Runner, Jungle, Shopzilla, Deal Time is someexamples of price comparison websites. Currently , price comparison website can be visible in almost every area such as technology, hospitality, automobiles, durables, garments etc.

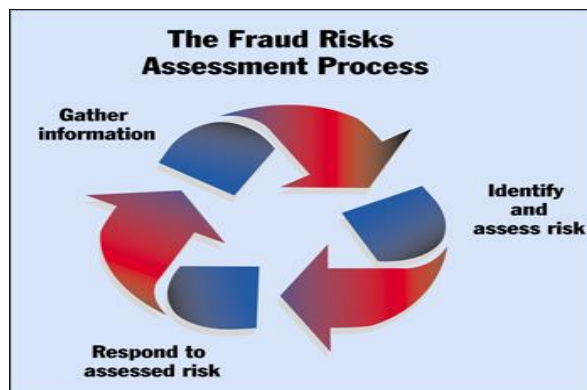
PRICING TABLE	STARTER 3,99	BASIC 4,99	STANDART 5,99	PREMIUM 6,99
1. Lorem ipsum sit	✓	✓	✓	✓
2. Lorem ipsum sit	✓	✓	✓	✓
3. Lorem ipsum sit	✗	✓	✓	✓
4. Lorem ipsum sit	✗	✓	✓	✓
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9. Lorem ipsum sit	✗	✗	✗	✓
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	BUY NOW	BUY NOW	BUY NOW	BUY NOW

Airline Route Planning : We all know that Airline Industry across the world is experiencing heavy losses. Except a few airline service providers, companies are struggling to maintain their occupancy ratio and operating profits. The high rise in air fuel prices and need to give heavy discounts to customers has further made the situation worst it wasn't for long when airlines companies started using data science to identify the strategic areas of improvements. Now using data science, the airline companies can:

1. Flight delay can be predicted
2. The class of airplane should be decided before buying.
3. Like deciding whether to land directly in place or to take halt between destinations



Fraud and Risk Detection : The first and best applications of data science originated from the field of Finance. Companies have been experiencing bad debts and losses every year. However, they had a lot of data which use to get collected during the initial paper work while sanctioning loans. They decided to formulate in data science practices in order to rescue them out of losses. Now days, banking companies learned to divide and conquer data via customer profiling, past expenditures and other essential variables to analyze the probabilities of risk and default. Moreover, it also helped them to push their banking products based on customer's purchasing power.

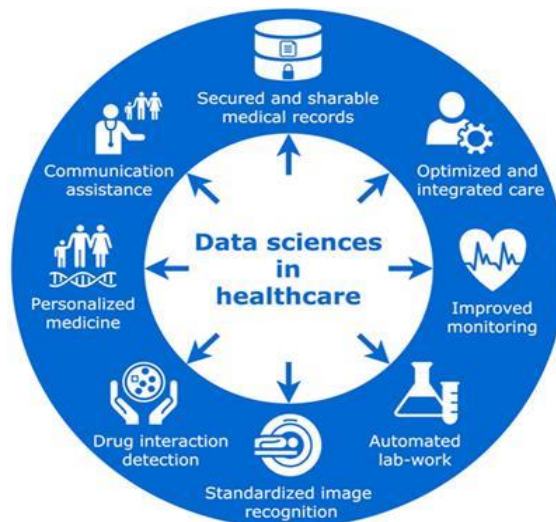


Delivery logistics : Who says data science has limited applications? It has been applied more than 100 fields Logistic companies like DHL, FedEx, UPS, Kuhne+Nagel have used data science to improve their operational efficiency. With the help of data science, these companies have discovered the best routes to ship, the best suited time to deliver, and the best mode of transport to choose thus leading to cost efficiency.



Health care: There are many applications for data science in the broad medical field:

- Genomic mapping
- Analytics in Big Pharma and HMOs
- National health systems can analyze community data
- Tumor detection via computer vision
- Time series analysis of chronic conditions



Automating risk management : Risk management is an enormously important area for financial institutions, responsible for company's security, trustworthiness, and strategic decisions. For financial institutions, the usage of data science techniques provides a huge opportunity to stand out from the competition and reinvent their businesses. There are vast amounts of continuously changing financial data which creates a necessity for engaging machine learning and AI tools into different aspects of the business.



Pros and Cons of Data Science : The field of Data Science is large and has its own fair share of advantages and limitations. So, here we will discuss the pros and cons of Data Science.

III. ADVANTAGES OF DATA SCIENCE

The various benefits of Data Science are as follows:

It's in Demand: Data science is a highly demanding job and it provides job opportunities to the best data analysts all over the country, it is one of the fast growing jobs on LinkedIn.

Abundance of Postion: There are very few people who are mastered in the data science hence there are abundance of vacancies in jobs. The job vacancies are available in all industries.

Highly Paid Jobs : Data science is one of the most highly paid jobs all over the world a beginner earns 5lakh to 7 lakh per annum.

Data Science is Versatile : There are **numerous applications of Data Science**. It is widely used in health-care, banking, consultancy services, and e-commerce industries. Data Science is a very versatile field. Therefore, you will have the opportunity to work in various fields.

Data Scientists are Highly Prestigious : Data Scientists allow companies to make smarter business decisions. Companies rely on Data Scientists and this gives Data Scientists an important position in the company

Data Science Makes Products Smarter : Data Science involves the **usage of Machine Learning** which has enabled industries to create better products tailored specifically for customer experiences. For example, Recommendation Systems used by e-commerce websites provide personalized insights to users based on their historical purchases. This has enabled computers to understand human-behavior and take data-driven decisions.

Data Science Can Make You a Better Person: Data Science will not only give you a great career but will also help you in personal growth. You will be able to have a problem-solving attitude. Since many Data Science roles bridge IT and Management, you will be able to enjoy the best of both worlds.

IV. THE FUTURE OF DATA SCIENCE

The Future of Data Science is as Follows: Data scientist profession seems to have a good future, as their demand will only increase in the future days considering the fact that huge amount of data are getting generated each day. And it will only increase. And our society is slowly getting transformed to data driven society.

- **Data Science is itself used to predict the future** and if analytics are done for data science itself, it will surely be towards its rising needs.
- The increase in the rate of data acquired through sensors and the emerging industry of IoT, both encourage increasing data science requirements.
- Mostly every organization inclining towards AI solutions opens more opportunities for aspiring data scientists.
- Currently all the well-established organizations have realized the importance of a data scientist in their firms.

One huge area i.e. **Artificial Intelligence** is going to merge with almost all the industries. Since, Machine Learning and especially Deep Learning are providing amazing results in improving the user interaction.

1. Smart Implants

In the future, smart medical implants are going to become more commonplace. Diabetic people will get implants that intelligently regulate their blood sugar levels. Athletes will have implants that monitor joint health and warn athletes when they are pushing them too far. There will be devices that regulate blood flow for children and adults with heart problems. There will be implants that can monitor your general health and warn you or your doctor when a problem is spotted early on.

2. Self Driving Cars

SELF DRIVING CARS are being hailed as the next big thing in transport. But there is another area that is also bound to affect how we drive on the road and that is car-to-car communication. Based on a network of interconnected cars and powered by upcoming AI technologies, this system will allow vehicles on the road to communicate to each other through signals.

3. The Rise of Super humans

Whether we like it or not, the human body is pretty limited in what it can do. Change the temperature a bit and we cannot survive. Get a cold and you have to stay in bed an entire week. The good news is, we will become one with the machines. The combination of robotics, bionics and artificial intelligence will usher in one of the most radical times of human history. We will gain superhuman sensory abilities in sight, hearing, taste and smell. These are just a few applications where AI is flourishing. The exciting part is that there are many researches happening which we don't even know about. If the ones we know about sound so interesting, imagine the ones which we don't have any idea about. The emerging technologies require huge data and it is going to be handled by none other than the data scientists.

V. CONCLUSION

This article stimulates the need for detailed information about data science, its importance and its application and the pro's and con's of the data science and the skills that are required for learning data science. Let us divide the content into five sub divisions. The First part we discussed about the Introduction of Data science in which plays a major role in every profession all over the world. In the Second part we came to know the Importance of data science in technology and business applications. The Third part Applications of data science shows the

detailed information how data science is used in each and every sector. Every coin has head and tail the same every field has the both the best and worst side and this is what The Fourth part shows the pro's and con's of the data science and the final topic shows that how a student should equip themselves for being the best data scientist. Finally I have listed about the future technology of data science. Scientist is forthcoming with excellent ideas to help a lot with data science to lead happy and healthy life

Reference

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