Sai Javvadi

The seas rock the ship, and each wave holds a force capable of untold possibilities. But this ship is prepared. It knows every condition that it's about to face. This ship uses data to predict and prepare for any kind of possibility in the external environment. That's the power of data science.

Everything is data. Colors, shapes, sizes, and even dimensions. The most abstract of things can be categorized as data. We find patterns in this data through analytical approaches, which yield algorithms that allow us to continue to make technological advancements. This is especially invaluable to entities like the Navy, who need to always calculate for every possible circumstance at sea to avoid the compromise of our nation's safety and security. With data science, the Navy saves time and money while increasing efficiency through almost every facet of its operations. In the Navy, ships contain numerous sensors for various purposes. The data collected by these sensors is used to maintain these ships for prolonged periods of time. Without this critical data, many ships would be unusable. However, data science is used for more than just maintenance. It is also used to develop artificial intelligence algorithms, which the Navy uses to maneuver around enemy ships. This is exactly why data science is an essential part of the Navy and the Marine Corps: innovation and preparation. It allows for the creation of innovative ideas that prepare these military forces for real-world situations through the utilization of an expansive network of data and algorithms.

Using this information, the Navy saves time, money, and increases efficiency through almost every facet of the Navy. For example, data science can be responsible for deploying personnel across different operations, or analyzing the issuing of contracts. Consistent data analysis lets the Navy know how efficiently it is operating, which leads to constant enhancement.

Data science can be truly inspiring because it's a tool that has such a significant impact on us by using information to find patterns, and those patterns are in turn used to improve things on a very high scale. It's not a high-tech weapon. It's not a multi-billion dollar defense system. It's data. It helps us maintain the wonders of the past, and pave the way to the future. It's what we do now that determines the future. Data science continues to be one of the largest growing professional fields in the world, and it will always be an essential part of the Navy's operations. The actions taken by the current generation of researchers to inspire the next generation of scientists will yield countless innovations and with them, a new era of technology.

Reece Koe is one of those scientists who contribute to the growth of the field. Through the experiences he shares, he inspires new generations such as myself, and creates a vision for the future. He demonstrates that data science can be used to create algorithms based on AI, ship maintenance, and much more. It is difficult to find an area that doesn't utilize data science in some way. This is something that really caught my attention: the infinite possibilities. We don't have to be confined to one area of research or data; instead, we could be involved in various fields of research. This new insight has led me to be genuinely intrigued by the subject, and motivated me to pursue it as a career. It is really exciting to

know that there is data in everything, and there are patterns waiting to be found - patterns that are keys to progression.

Reece Koe's commitment to his field is another thing that inspires me. He tells us that he's been doing internships at the Navy since before he left college. His level of commitment has inspired me to seize my opportunities and never let go. As a result of my newfound spark of determination and spirit to seize the opportunities that I see in my horizon, I have made it a goal of mine to major in data science. You see, I had always done a little bit of computer science. Included was the programming of artificial intelligence, or AI. Naturally, I had to get familiar with data science in order to use data sets and train my programs. However, it has always been something of a hobby; something I would do at the end of the day as an avid enthusiast. After watching Koe's video, I realized the vast opportunities waiting for me if I decided to prioritize data science. And so, like a child eagerly rushing towards an ice cream truck, I have immersed myself into data science without looking back. And with that, my ship has set course to a new destination: a destination over the horizon.

A great thing about data science is its ability to predict the future. It knows how to react to certain scenarios because it was trained to. This becomes especially important as we get into the future, an age that is sure to be defined by new technologies and the trepidation associated with them. However, data science helps us prepare for these things. It can allow us to deal with chaos-causing tools of destruction like hypersonic anti-ship missiles or high energy lasers.

One specific thing that is sure to change the Navy drastically will be quantum computers, computers that can solve computational problems significantly faster than modern day computers. Quantum computers will allow data science to be more efficient and do more things. They can analyze data sets at much faster speeds, allowing us to develop high quality machine learning models. This will save millions, potentially billions, of dollars due to smarter algorithms that aren't nearly as inaccurate as traditional algorithms that cannot possibly account for all scenarios. In the year 2040, this level of technology might even be accessible to the general public, which would result in unparalleled levels of productivity due to the sheer speed and efficiency quantum computers possess.

Algorithms are incredibly useful, but sometimes human intervention is necessary. The future might hold AI that actually assists us in real-time. This will create greater efficiency within the Navy and also ensure quality of work. We will be able to utilize advanced forms of AI as a supplement to our work, ensuring greater efficiency, accuracy, and an abundance of conveniences. In 2040, these types of advanced AI systems could affect all of us through greater productivity, security, and more.

Another form of data science technology that could be incredibly useful in the future would be wearables like virtual reality systems. Serving our country isn't an easy job. Many times, those who serve suffer from life-altering injuries or conditions such as PTSD (post-traumatic stress disorder). The effects

of these injuries and conditions can be mitigated with wearables. These wearables will be able measure every part of the human experience through the use of sensors and neural input. These sensors could encourage progress in healing through the use of markers indicating psychological condition. Basically, data science could further enhance our ability to cure psychological conditions. This would be a life changing step for the practice of military (or any) medicine. Data science is already being used to make significant strides in medicine. In fact, by 2040, virtual reality systems and other wearables could have a serious impact on medicine, and therefore, to all of us.

Although it's difficult to predict exactly the technologies of the future, one thing is for sure: data science is growing rapidly, and will continue to do so as we make innovations in this very new field. Through those scientists like Reece Koe, who inspire us to pursue the field, we can create the technologies of tomorrow. We can use data science in so many ways and truly change the world. It can be used to create fascinating technologies with tremendous potential, and create a new era of innovation and advancement. As entities like the Navy put it to good use, we build a new sort of world: a world defined by data, and the patterns that come along with it. We open the gateways to creativity, curiosity, passion, and innovation. And with that, we set sail to a new land.