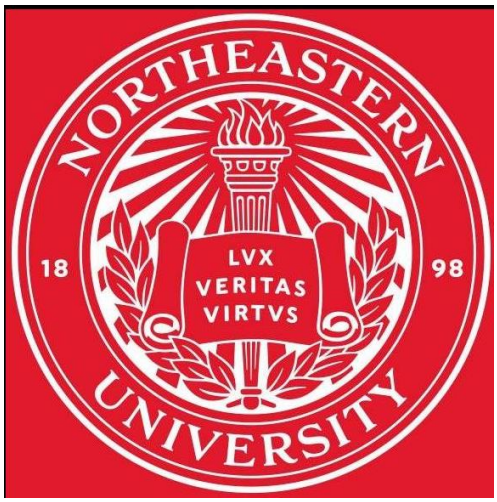
Module 5 Assignment — Case Study



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Introduction

AutoML is one of the most powerful techniques to speed up the process of decision making and predicting. Once of its major advantage is that it reduces the time taken with increase in the accuracy. Many comes uses this technology while processing redundant methods or model. So that the resource can be utilized in other important or critical tasks. Also, this helps in bring in low code/no code concept as it automatically performs the data engineer and scientist task on its own when parameter is fed to it. Which has aided a lot of start up to build a strong analytical base without the hiring enough number of data scientist. AutoML tools are easy to use UI which increases the usability overall. Many companies use this to save up on cost and increase revenue.

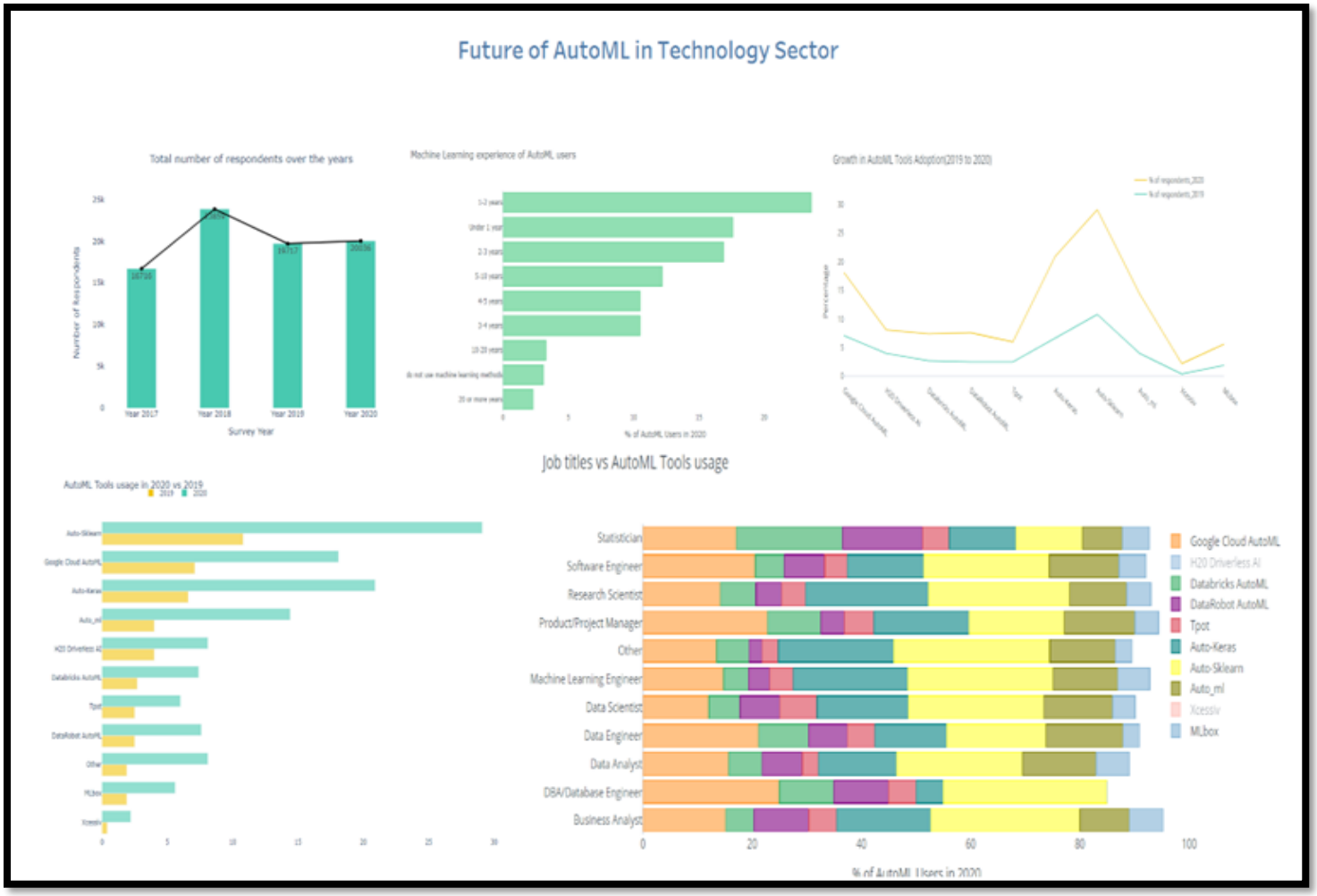
Once such company I am going to talk on is Lenovo. Lenovo has emerged from Brazil's market and now recognized across the globe for its gadgets. Lenovo is the one of the biggest businesses in electronics domain. The company sells PC, laptops, mobile phone, screen, and other accessories and makes more than $45 billion yearly. Lenovo wanted to increase the accuracy of prediction of sales and operations among their retailers. For this they used data robot as their autoML tool to keep a tab on the sales and manufacturing operation. This has increased the accuracy from 80 precent to 87.5 percent. And reduced the model creation time from 4 weeks to just 3days.

There are so many various tools that are available to use as source of AutoML. AutoMl will help apply machine learning to real world around to solve numerous problems. This approach will help reduce the human made bias and errors. These automated machines can use fine tuning to irradicate the errors by reinforcement learning and similar more application of autoML will grow.

Machine learning is subjected to Blackbox criticism as it can not be reversed engineered for many problems. Hence, this cant be used to real world scenarios straight forwardly as output might tend to vary. But autoML makes this issue dissolvable by letting machine learning being applied to real world problems. However, autoML still is not perfect in its algorithms but by feeding data to it decision making is being improved and error are avoided.

My business question is regarding "*How is the growth of autoML progressing and what is its scope?"*

For this I have taken into consideration the Kaggle dataset. Here, the dataset contains data of four different years and shows the trend in the growing popularity of autoML. The highest visibility of the usage of autoML was since 2018 as per the bar graph below. Another factor that determines usability of autoML is based on the machine learning experience. It has been observed that those who have 1-2 years of experience tend to use the autoML more in the industry as compared to those with more experience in machine learning. Which means that less proficient user can also use autoML to derive the similar insights. The double bar graph shows that autoML tool usage has increase from 2019 to 2020. Especially, auto -sklearn tool and google cloud automl widely being popular. Furthermore, it's not necessary that you need to me data engineer or scientist to use this tool. You need not be a coder to use this tool. Anyone can use it. The most user friendly autoML tool is of google cloud autoML and autoML sklean it is widely used irrespective to your designation.



Conclusion

AutoMl can be used by anyone who wants to learn the tool. No coding expertise is required to use it. As its open source and easy to use a lot of start ups use it. The analysis also showed that people with less experience use autoML more than the experience employees. AutoML irradicated the black box barrier that machine learning creates and helps back track plus optimize as per the real-world scenarios problem. The trend also shows that now companies are adapting and using autoML for quicker solution for redundant tasks. Once such example that I took of Lenovo. Lenovo has seen increase in the accuracy to 87 percent along with decrease in model training time from weeks to days. Such amazing difference to optimize the sales and operation of the company is remarkable. Overall, the autoML has a lot of potential for the market demands.

References: -

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