Hands-On Machine Learning with Scikit-Learn and TensorFlow Book Critique

Introduction

In **Hands-On Machine Learning with Scikit-Learn and TensorFlow,** A well-known author **Aurélien Géron** tries to give the best knowledge of Artificial intelligence and Machine learning. He is an ML consultant who leads the youtube video classification team from 2013 to 2016 This book is ideal for those people who love to learn and work with emerging technology as we know, the world is now AI and every manual work is now converted into a Machine so It's a masterpiece for machine learning enthusiasts and instead of writing toy version of the algorithm, you will use actual python frameworks. We will discuss End To End Machine Learning Project, the second and most important chapter of this book.

Summary

In this chapter, **Aurélien Géron** explains the complete end-to-end project of machine learning using the Real dataset. The process includes the following things, the first thing is getting the dataset. you can download the dataset from Kaggle. Your data must be clean so that no null values in your dataset. After that visualize the data to get its insights. After that, you have to prepare your data for the machine learning model. Select the best machine learning model and train it. After the train, you have to fine-tune your model to get the best accuracy & lastly you have to display your results and performance using tensorboard, streamlit etc.

Critique

The Journey begins with selecting the real data. It's the first and most important step because choosing the wrong data ends in disaster. The dataset is available in **Kaggle, UCI repository, Amazon AWS dataset** etc. You must understand what the client wants because You can either use the **Regression model or the classification mode**l but it is based on

what outcome you want. After that, select the performance measure. The ideal performance measure is the **Root mean square error**.

After importing data, He cleans the dataset before visualization to remove null values. He performs feature scaling to normalize his data Now another step is splitting the dataset. In my opinion, the splitting ratio must be **80%** for training data, **10%** for validation data and **10%** for testing data. After splitting, visualize the data to get insights. You must have to correlate the data to check if income goes up or down.

After all these procedures, the data is now ready for the machine learning model. It is the most crucial step to choosing the right model that gives you the best accuracy without any underfitting and overfitting. The author uses linear Regression for training. After training, he fine-tunes our model to get maximum accuracy. you can also use the ensemble method to fine-tune the model. The model is now trained and you have to evaluate the model to check our model performance. The Final step is launching our model using tensorboard and monitoring our model performance

Conclusion

To conclude this chapter, I must say the author describes briefly and best way to build an end-to-end machine learning model. The author describes all procedures from very scratch to solve real-time problems using machine learning techniques. I would love to say that these types of projects build your strong foundation to solve worst-case scenarios of machine learning problems.

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