HW4

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1. According to Paul Anderson’s opinion, cyclomatic complexity isn’t a perfect metric as a predictive metric. It has several problems such as “short circuiting operators were simply being ignored”. There will be different values after refactoring. And it is not precise for Academia. However, for factory, an approximation is good enough because consistency is more important than precision.

<https://blogs.grammatech.com/your-cyclomatic-complexity-may-be-wrong>

1. I want to compare Prediction Model, Machine Learning Model and Defect Density Prediction Model. Predictive modeling is the analysis of patterns in a given data set to make predictions about the future. This model uses current and historical data for behavioral, trend and future data analysis models. Machine learning models are models that can find patterns and make decisions from data sets that have never existed before. For example, in image recognition, machine learning models learn from various data sets to accomplish the output of patterns or trends in the data. For a defect density prediction model, the defect density is the total defects divided by the size of the software entity being measured. Software defect prediction optimizes the use of testing resources.

https://www.sciencedirect.com/science/article/pii/S1877050915002252

1. In my opinion, each model has its own scenario for use. If we need to find results from existing data, then predictive modeling would be a good choice. If we need to develop a model from nothing, then machine learning is a more recommended model. It really depends on different requirements.