

國立中興大學 應用數學系 學術演講

主講人：羅士哲 老師

講題：

研究插補方法於加工品質之工業大數據預測分析

Study of Imputation Methods in the Industrial Big Data Predictive Analytics for Manufacturing Quality

摘要：

Recently, data imputation methods has been regarded as an important issue in the industrial Big Data predictive analytics due to various missing values from sensors in the smart manufacturing. In this study, we conduct the research with two experiments. In the first phase, records with missing data are removed from initial dataset to execute experiments and use the complete dataset to create new testing datasets that contain different missing rate. Then, we apply different imputation methods such as Random Forest, Classification and Regression Tree, Predictive Mean Matching and some simple statistics to impute the testing datasets. Then, investigating which imputation methods can restore the testing datasets precisely under different missing rate and whether the result can correspond to the second experiment. Second experiment uses original dataset directly applying imputation methods from the first phase to impute the missing values. Then, we use the Artificial Neural Network model to predict the quality of drills machining for this dataset. Also, different imputation methods are used to test whether the drill machining quality prediction results are effective.

時間：109年7月22日(三) 上午11時

地點：資訊科學大樓501室

