

Study on the Robust Model

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Abstract

A robust model is designed to provide reliable and consistent performance even when the input data, operating conditions, or underlying assumptions are uncertain or subject to variation. This study focuses on the development and analysis of a robust model capable of handling uncertainty, noise, incomplete information, and unexpected changes in system conditions. The primary objective is to examine how robustness can improve the accuracy, stability, and reliability of model-based decision-making and prediction. The study considers different sources of uncertainty and evaluates their potential effects on model performance. A systematic modelling approach is adopted in which the model is developed, tested, and evaluated under both normal and challenging conditions. Key performance measures such as accuracy, stability, sensitivity, reliability, and computational efficiency are considered for assessment. The findings indicate that incorporating robust modelling techniques can reduce the adverse effects of uncertain or noisy inputs and improve the model's ability to maintain satisfactory performance across different scenarios. The study also highlights the importance of selecting appropriate assumptions, parameters, and validation methods when developing a robust model. Overall, robust modelling provides a useful framework for addressing uncertainty and improving the dependability of analytical and predictive systems. The study may serve as a foundation for further research and practical applications where reliable performance is required under changing and uncertain conditions.

Keywords: Robust Model, Robust Modelling, Uncertainty, Reliability, Stability, Model Performance, Prediction, Data Analysis.

