

Artificial Intelligence & Machine Learning

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Robert M.X. Wu¹, Christy Liang² & Hai Yan(Helen) Lu³

¹School of Professional Practice & Leadership ² DataVis Lab, School of Computer Science, ³Australian Artificial Intelligence Institute, School of Computer Science/Faculty of Engineering and Information Technology/University of Technology Sydney, Australia

Using Machine Learning in Developing an Effective Metric Model for Measuring Customer Trust Satisfaction: A Viewpoint of Australian Trustworthy Digital Society Granted Project

Our recent study highlights ten machine learning (ML) algorithms widely adopted for short-term forecasting in developing industrial prediction systems, including Autoregressive Integrated Moving Average (ARIMA), Back-Propagation-Resilient (BP-Resilient), Back-Propagation-Second-Order Gradient (BP-SOG), K-Nearest Neighbour (KNN), Linear Regression (LR), Long Short-Term Memory (LSTM), Perceptron, Random Forest (RF), Recurrent Neural Networks (RNN), and Support Vector Machine (SVM). Although our recent study highlights that no single algorithm can fit all business applications for short-term forecasting, LR, RF, and SVM are recognized as optimal algorithms. KNN has the best efficiency with the shortest computational time. However, our study has identified that no single ML algorithm can fit all industrial applications. The Australian Trustworthy Digital Society (TDS) is a collaborative effort between two leading Australian universities: the University of Technology Sydney (UTS) and the University of New South Wales (UNSW). It brings together experienced voices from both University and Industry to facilitate the creation of a digitally enabled society that is equitable, inclusive, and sustainable. The TDS brings together experienced voices from all disciplines and areas of study, as well as diverse communities and organizations, to develop multidisciplinary, world-leading, collaborative research on digital trust.

This presentation introduces a recently granted TDS project and aims to understand current research and explore an effective metric visualization model for measuring customer trust satisfaction in a trustworthy digital society. A hybrid ML algorithm is explored for predicting customer trust and satisfaction and building a metric model.

Keywords

machine learning, short-term forecasting, customer trust, customer satisfaction, trustworthy digital society, metric visualization

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Biography

Dr. Wu is a senior lecturer in the School of Professional Practice and Leadership at Faculty of Engineering and Information Technology, University of Technology Sydney. He is a pioneering researcher on digital transformation, driving the transition from traditional business to digital business/e-business. He is also an associate editor of the Electronic Journal of Business Research Methods.

He is an internationally renowned consulting expert in leading interdisciplinary projects, having demonstrated exceptional leadership, expertise, and innovation throughout his career, particularly in industry-engaged international collaborations. His track record demonstrates his dedication to fostering connections in the global academic and business communities.