

國立臺北大學商學院統計學系

專題演講

講 題：Interval Data: Modeling and Visualization(區間數據)

主講人：Dr. Dennis K.J. Lin (Department of Statistics, The Pennsylvania State University, University Park, USA.)

時 間：108 年 12 月 18 日 (星期三，15：00~16：30)

地 點：三峽校區商學院演講廳商 3F13

Abstract

Interval-valued data is a special symbolic data composed of lower and upper bounds of intervals. It can be generated from the change of climate, fluctuation of stock prices, daily blood pressures, aggregation of large datasets, and many other situations. Such type of data contains rich information useful for decision making. The prediction of interval-valued data is a challenging task as the predicted lower bounds of intervals should not cross over the corresponding upper bounds. In this project, a regularized artificial neural network (RANN) is proposed to address this difficult problem. It provides a flexible trade-off between prediction accuracy and interval crossing. Empirical study indicates the usefulness and accuracy of the proposed method. The second portion of this project provides some new insights for visualization of interval data. Two plots are proposed—segment plot and dandelion plot. The new approach compensates the existing visualization methods and provides much more information. Theorems have been established for reading these new plots. Examples are given for illustration.

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