

# 國立中山大學應用數學系

## 學術演講

講者：陳定立教授(中央研究院統計科學研究所)

講題：Categorical Data Embedding

時間：2020/6/11 (Thursday) 14:10 ~ 15:00

地點：理學院四樓理 SC 4009-1 室

茶會：15:00 於理 SC 4010 室 (系辦公室)

### **Abstract**

Categorical data characterize samples by "categories", not by "quantities". Such a characterization makes it difficult for analysts to explore categorical data.

Homogeneity Analysis (HOMALS) is a method that provides analysts with one solution by embedding categorical data into Euclidean space. The key idea of HOMALS is to minimize the total distances between each subject and its categories. Due to this minimization criterion, outliers will be assigned to the middle part, which is not a good presentation. In this talk, I will propose a new method for embedding categorical data. Instead of assigning each category into a location, our

idea is to find the most discriminant subspace for categories to represent a variable. Based on this idea, we propose an iterative procedure to assign subject locations and variable subspaces alternatively. I will demonstrate the strength of this method to recover the underlying structure by simulation.

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