

清華大學、交通大學  
統計學研究所  
專題演講

題 目：Regression Tree for Count Data

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(10:20 - 10:40 茶會於統計所 821 室舉行)

地 點：清大綜合三館 837 室

### Abstract

We propose a versatile regression tree method for analyzing count data. At each node, a count regression model, such as Poisson, negative binomial, hurdle or zero-inflated regression is fitted to the current data. Based on the partial score residuals of the fitted model, the Pearson chi-square test of independence is then used to decide the split variable at current node. Next, the maximum likelihood value is used to select the corresponding split set. Lastly, cross-validation pruning based on node deviance is used to prevent overfitting and determine the final tree model. The method is free from variable selection bias. It is shown to have an edge over the existing methods in the simulation and real data studies. The algorithm is implemented in the R package CORE which is available at <http://discovery.ccu.edu.tw/Site/nu26786/>.

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