

# 國立成功大學統計學系暨數據科學研究所

## 專題演講

演講者: Prof. Regina Liu (劉月琴 教授)

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時間: 2021年06月10日 (星期四) 15:30 - 16:30

地點: Online Seminar (本次演講將採純線上形式進行)

題目: A comprehensive framework for prediction

### 摘要

We present a general framework for prediction in which a prediction is in the form of a distribution function, called 'predictive distribution function'. This predictive distribution function is well suited for prescribing the notion of confidence under the frequentist interpretation and providing meaningful answers for prediction-related questions. A general approach under this framework is formulated and illustrated using the so-called confidence distributions (CDs). We discuss the theory underlying the CD-based predictive distribution and related efficiency and optimality. We also propose a simple yet broadly applicable Monte-Carlo algorithm for implementing the proposed approach. This concrete algorithm together with the proposed definition and associated theoretical development provide a comprehensive statistical inference framework for prediction. Finally, the approach is illustrated by a real project on predicting the volume of applications to a government agency. This illustration actually shows the broad applicability of the proposed approach to dependent data settings as well.

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統計學系: <http://www.stat.ncku.edu.tw/>

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