



THE UNIVERSITY OF
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Conformal Prediction and Testing

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Via Zoom (session information will be e-mailed to subscribers)

ABSTRACT

Mainstream machine learning, despite its recent successes, has a serious drawback: while its state-of-the-art algorithms often produce excellent predictions, they do not provide measures of their accuracy and reliability that would be both practically useful and provably valid. Conformal prediction gives such measures under the IID assumption (the observations are assumed independent and identically distributed). An interesting application of conformal prediction is the existence of exchangeability martingales, i.e., random processes that are martingales under any exchangeable probability measure, in particular under the IID assumption. In this talk I will discuss the construction of exchangeability martingales and their use for different kinds of change detection, including detecting a point at which the IID assumption becomes violated and detecting concept shift. This may be useful for deciding when a prediction algorithm should be retrained.

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