

Unsupervised Ensemble Learning and Its Application to Temporal Data Mining

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Abstract

Ensemble learning is originally proposed for classification tasks in a manner of supervised learning, the basic concept of ensemble learning is to train multiple base learners as ensemble members and combine their predictions into a single output that should have better performance on average than any other ensemble member. Recently, ensemble learning has been extended to unsupervised learning with different strategies, named as clustering/unsupervised ensemble. This has led to many real-world applications, such as gene classification, image segmentation, video retrieval, and so on. This presentation is going to concentrate on unsupervised ensemble learning technique, and talk about how such technique can deal with the challenge in clustering temporal data with various and high dimensionality, large volume, very high-feature correlation, and a substantial amount of noise.

Biography

Yun Yang received the B.Sc. (Hons.) degree with first class in information technology and telecommunication from Lancaster University, Lancaster, U.K., in 2004, the M.Sc. degree in advanced computing from Bristol University, Bristol, U.K., in 2005, and the M.Phil. degree in informatics and the Ph.D. degree in computer science from the University of Manchester, Manchester, U.K., in 2006 and 2011, respectively. He was a Research Fellow with the University of Surrey, Surrey, U.K., from 2012 to 2013. He is currently with the National Pilot School of Software, Yunnan University, Kunming, China, as a full Professor of Machine learning and Data Mining, he is also a Yunnan (China) distinguished professor (Yunnan Province High Level Overseas Talent Recruitment Program), and member of Yunnan University (China) Software School Academic Commission, Director of Kunming key laboratory of data science and intelligent computing, Director of Yunnan Provincial University Key Laboratory of Data Science and intelligent Computing, Deputy Secretary General of China information economics society-Internet economy and cross-border e-commerce Specialized Committee. He serves the Yunnan Provincial Academic Commission as proposal evaluator, project auditor. His current research interests include machine learning, data mining, pattern recognition and temporal data process and analysis. Dr. Yang has published more than 70 papers (including TKDE, TSMC, TNNLS, TII, TCBY, IF, PR) and 2 monograph books in the field of machine learning, data mining and pattern recognition, and serves as an Associate Editor for journal of Yunnan University (Natural Sciences Edition), Complex & Intelligent Systems, and Neural Networks, reviewers in more than 10 international journals, and the section chair or the PC member in some international conferences.