Transfer learning and Applications

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Abstract. In machine learning and data mining, we often encounter situations where we have an insufficient amount of high-quality data in a target domain, but we may have plenty of auxiliary data in related domains. Transfer learning aims to exploit these additional data to improve the learning performance in the target domain. In this talk, I will give an overview on some recent advances in transfer learning for challenging data mining problems. I will present some theoretical challenges to transfer learning, survey the solutions to them, and discuss several innovative applications of transfer learning, including learning in heterogeneous cross-media domains and in online recommendation, social media and social network mining.