

Title: Big Data Intelligence: Challenges and Our solutions

Abstract: Big Data Intelligence has become a hot research topic in the area of artificial intelligence. This talk aims to outline some main challenges on Big Data Intelligence, e.g., data with few labels, user privacy, high dimensionality, open-world dynamics, multi-source heterogeneity. Then our solutions for Big Data Intelligence are provided, which cover the following aspects. 1) A micro-supervised disturbance learning paradigm is developed to reduce the reliance of deep representation on labels; 2) A federated deep reinforcement learning framework is presented for big data protection; 3) A distributed operating-based feature selection algorithm is devised for high-dimensional big data; 4) A three-way decision-based incremental learning method considering temporal-spatial perspectives is proposed to deal with fuzzy open-world big data; 5) Several deep learning-based models are illustrated to fuse multi-source heterogeneous big data as well as their applications in smart cities.

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