Dong Wang

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EDUCATION BACKGROUND

Ph.D. 2012-Now : Department of Institute for Interdisciplinary Information Sciences (IIIS), Tsinghua University, P.R.China (Advisor: Jian Li)

Bachelor 2008-2012 : Department of Computer Science, China University of Mining and Technology, P.R.China (GPA Rank: 2/78)

RESEARCH INTERESTS

Machine learning, deep learning and their applications in massive spatio-temporal data.

AWARDS

Competitions

- No.3 among 1956 teams, Travel Time Estimation Competition (DataCastle 2017, `http://www.pkbigdata.com/`)
- No.2 among 1648 teams, Di-tech Algorithm Competition, 2016
- The Most Potential Prize, Di-tech Algorithm Competition, 2016
- Winning prize, National Information Security Competition, 2010
- The second prize, Subei Math Model Competition, 2010

Scholarships

- The third prize scholarship, Tsinghua University, 2012-2013
- The social work scholarship, Tsinghua University, 2012-2013
- The first prize scholarship, China University of Mining and Technology, for three times, 2009 - 2012

EXPERIENCE

Internship

- Algorithm Design Intern, Big Data Research Lab, Didi Taxi, Beijing, 2015.11-2016.4 (Supervised by Jieping Ye).

Teaching Assistant

- IIIS, Tsinghua University, Mathematics for Computer Science (Lecturer: John Steinberg, Spring 2015)
- IIIS, Tsinghua University, Comprehensive Paper Training (Lecturer: Jian Li, Fall 2014)

PUBLICATIONS

- DeepSD: Supply-Demand Prediction for Online Car-hailing Services using Deep Neural Networks, **Dong Wang**, Wei Cao, Jian Li, Jieping Ye. In International Conference on Data Engineering (ICDE) 2017.

  In the project of car-hailing supply-demand, we proposed an accurate and highly flexible framework based on the deep residual network. The preliminary version

of our algorithm won the 2nd place (among 1656 teams) of Di-tech Algorithm Competition 2016.

- WhenWill You Arrive? Estimating Travel Time Based on Recurrent Neural Networks, **Dong Wang**, Wei Cao, Jian Li (Submitted to International Joint Conference on Artificial Intelligence (IJCAI) 2017)

  In this paper, we studied estimating the travel time of given path by deep recurrent neural networks. Our model combines a stacked two-layers deep recurrent neural network and a deep residual network. Our algorithm achieves the third rank of travel time estimation competition in DataCastle, without ensemble any other models.

- ETCPS: An Effective and Scalable Traffic Condition Prediction System, **Dong Wang**, Wei Cao, Mengwen Xu, Jian Li. In Database Systems for Advanced Applications (DASFAA) 2016.

  In this paper, we study predicting the traffic conditions of any roads based on GPS data collected from floating vehicles. We combined a predictive regression tree and a probabilist graphic model based on two useful observation. Our model achieves a more accurate performance and faster running speed comparing with the prior work.

- Automatic User Identification across Heterogeneous Data Sources, Wei Cao Zhengwei Wu, **Dong Wang**, Jian Li, Haishan Wu. In International Conference on Data Engineering (ICDE) 2016.

  In this paper, we investigate efficient ways of identifying users across such heterogeneous data sources. We present a MapReduce-based framework which is easy to deploy and can scale to very large data set. This project is a join work with Baidu Bigdata Lab (headed by Prof. Tong Zhang).

- DESTPRE: A Data-Driven Approach to Destination Prediction, Mengwen Xu, **Dong Wang**, Jian Li. In ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp) 2016.

  In this paper, we proposed a new data-driven framework which directly operates on the trajectories and makes the prediction. Our design is a result of several useful observations from the real trajectory data. By incorporating some additional ideas, we show that the prediction accuracy can be further improved.

UNDER PREPARATION

- Social Relationship Detection Based on Sequence to Sequence Learning, **Dong Wang**, Jian Li
- Characterizing Traffic Conditions using Recurrent Neural Networks, **Dong Wang**, Jian Li