Bokun Wang

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Research Interest My research interests lie primarily in machine learning, especially in deep learning with weak supervision/constraints/symbolic knowledge and fairness/privacy-preserving machine learning.

Education

University of California, Davis 2018 - current
Ph.D. in Computer Science
Current GPA: 4.00.

University of Electronic Science and Technology of China 2014 - 2018
Bachelor of Science in Computer Science, Yingcai Honors College
GPA: 3.94 (91.23), ranking 3rd out of 92, recipient of National Scholarship and Honor Graduates.

Projects

Deep Fair Clutsering with Multi-State Protected Variables Fall 2018
Fair clustering under the disparate impact doctrine requires that population of each protected group should be approximately equal in every cluster. Previous work investigated a difficult-to-scale preprocessing step for k-center and k-median style algorithms for the special case of this problem when the number of protected groups is two. In this work, we consider a more general and practical setting where there can be many protected groups. To this end, we propose Deep Fair Clustering, which learns a discriminative but fair cluster assignment function. The experimental results on three public datasets with different types of protected attribute show that our approach can steadily improve the degree of fairness while only having minor loss in terms of clustering quality.

Unsupervised Hashing with Regularized Binary Autoencoder Fall 2017
Proposed a new unsupervised image hashing approach based on regularized binary (linear) Autoencoder, which is optimized by alternatively solving sub-problems (For optimizing mixed integer program in one sub-problem, signed gradient descent is used). [Slides]
In submission to TIP journal.

Cross-modality Information Retrieval with Adversarial Learning Winter 2016
A simple but effective deep cross-modal embedding approach based on adversarial learning.
Published in ACM Multimedia 2017.

Work Experience

Computer Science Dept, University of California, Davis Sept, 2018 – Current
Graduate Student Researcher to Prof. Ian Davidson.

Terzopoulos Lab, University of California, Los Angeles July, 2017 – Sept, 2017
Summer Intern. Developed new hierarchical and multiscale approach for facial image verification; worked on deployment algorithms.

Graduate Course Work Visual Recognition A Programming Languages A

Undergraduate Course Work

Optimization Methods 95	Linear Algebra 97	Calculus 94
Discrete Mathematics 94	Foundamentals of Software 90	Information Theory 90
Digital Image Processing 95	Computer Vision A^+	Signal and System 92