Weiwei Duan

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Ph.D. student in Computer Science **Aug. 2016 -**
University of Southern California, USA GPA: 3.48
M.S. in Computer Science **Aug. 2014 - May. 2016**
University of Southern California, USA GPA: 3.53
B.B.A in Computer Science **Sep. 2010 – Jun. 2014**
Anhui University, China GPA: 3.54

Skills and Research Interests

Skills: Python, Java, Oracle, MongoDB, Postgres, PostGIS, ElasticSearch, Keras, Tensorflow, Spark
Research Interests: Deep Learning, Data Integration, Data Mining, Machine Learning

Publications

Duan, W., Chiang, Y. Y., Knoblock, C. A., Uhl, J. H., & Leyk, S., *Automatic generation of precisely delineated geographic features from georeferenced historical maps using deep learning*. In Proceedings of the AutoCarto, 2018.

Duan, W., Chiang, Y.-Y., Knoblock, C. A., Jain V., Feldman, D., Uhl, J. H., Leyk, S., *Automatic Alignment of Vector data with Geographic Features for Feature Recognition in Historical Maps*. Proceedings of the 1st Workshop on Artificial Intelligence and Deep Learning for Geographic Knowledge Discovery. ACM, 2017.

Duan, W., Chiang, Y. Y., *Building knowledge graph from public data for predictive analysis: a case study on predicting technology future centers in space and time*, Proceedings of the 5th ACM SIGSPATIAL International Workshop on BigSpatial (pp. 7-13), 2016.

Duan, W., Qian, F., et al., *Structural Holes Study of ICML Collaborative Network,* Journal of Computer Information Systems, 2015.

Research Experience

Exploiting Context in Cartographic Evolutionary Documents to Extract and Build Linked Spatial-temporal Datasets *Research Assistantship; Research supported in part by NSF, Microsoft, Nvidia* **Sep. 2016 -**

- Building geographic data conflation algorithms to automatically generate high quality training data for image recognition using deep learning models
- Build Fully Convolutional Networks to accurately delineate geographic features from large amounts of georeferenced historical map scans

Modeling, Integrating, and Search Across Multiple Geographic Features from a Variety of Geospatial Sources *Paid position supported by BAE Systems* **Jan.– Jul. 2016**

- Build a web crawler to collect geo-temporal data from multiple online sources
- Extend an existing geo-temporal ontology and map data to the ontology to generate knowledge graphs
- Build the technology to enable an efficient workflow of predictive analytics by using knowledge graphs

USTC-NLP (a Natural Language Process package) published in pypi.python.org Aug. 2015

- Build new functions for grammar checking and suggestions in the open-source package
- Implement grammar tree prediction algorithm to check grammar and give suggestions

Recognition System of Ancient Chinese Characters **Feb. 2012 – Jun. 2013**
Funded by the National Undergraduate Innovative Laboratory Program

- Remove salt and pepper noises by using median filter in pre-processing
- Build a Support Vector Machine model for character recognition with image features of Hu's moment invariants