Qinyuan Sun

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Github : https://github.com/kensun619/Projects

Education

- **University of Wisconsin Madison** — Madison, WI
  Phd Candidate in Electrical Engineering — *Aug. 2014 - Present*
- **University of Wisconsin Madison** — Madison, WI
  Master of Science in Electrical Engineering; GPA: 3.8 — *Aug. 2012 – Jun. 2014*
- **University of Missouri - Columbia** — Columbia, MO
  Bachelor of Science in Electrical Engneering; GPA: 3.9 — *Aug. 2010 – Jun. 2012*

Projects

- **Building Pottery Knowledge Base using Fonduer**:
  - Extracted unary and binary relation from scientific literature
  - Applied weak supervision to generate noisy training data using Snorkel
  - Leveraged richly formatted data such as tables and images to improve extraction result using Fonduer
  - Used PostgreSQL as backend database engine
- **Image-based Object Detection System for Self-driving Car**:
  - Designed a deep learning system to detect cars, pedestrian, cyclist and traffic light with high precision and recall.
  - Implemented Yolo v1 and Yolo v2 detection algorithm using tensorflow.
  - Applied various data augmentation for training and conducted multi-scale inference
  - Achieved 70 mAP on test set.
- **Hybrid Online/Offline Recommender System**:
  - Developed a general-purpose end-to-end recommender system
  - Applied feature-based modeling, content-based filtering, collaborative filtering (matrix factorization) and clustering method
  - Designed for both frequent users and first-time users (cold-start).
  - Included both online learner and offline learner.
- **Hypothesis Testing in Unsupervised Domain Adaptation for Dataset Fusion**:
  - Proposed a hypothesis testing method to combine clinical and imaging based biomarkers from multiple sites or batches using minimal maximum mean discrepanc
  - Presented a framework for kernelized statistical testing on data from multiple sources when the observed measurements/features have been systematically distorted/transformed.
  - Estimated source-to-target mapping such that both domain have similar distributions.

Skills

- **Languages**: C++, Python, Java, Matlab, SQL
- **Tools**: Google Cloud Platform, Amazon Aws, Tensorflow, OpenCV

Publication

- C. Hinrichs, V. Ithapu, **Q. Sun**, S. C. Johnson, V. Singh, Speeding up Permutation Testing in Neuroimaging, Neural Information Processing Systems (NIPS) December 2013
- H. Zhou, S. Ravi, V. Ithapu, **Q. Sun**, S. Johnson, G. Wahba, V. Singh, Hypothesis Testing in Unsupervised Domain Adaptation with Applications in Alzheimers Disease, Neural Information Processing Systems (NIPS) December 2016