Yuanwei Wu

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Interests

- Computer Vision: Object Proposal, Object Tracking and Small Object Recognition and Detection.
- Deep Learning: Convolutional Neural Network, Metric Learning.

Current Education

Ph.D candidate in EECS, **The University of Kansas**, Lawrence, KS, USA 2015.8 – Present

Experience

Research Intern, **Mitsubishi Electric Research Laboratories**, Cambridge, USA 2017.1 – present

- Video-based proposal for information extraction using deformable part models and latent structured SVM
- Small object recognition and detection using deep convolution neural network

Research Assistant, ITTC at **The University of Kansas**, Lawrence, KS, USA 2015.8 – Present

Deep Learning for Visual Tracking and Small Object Detection 2016.8 – Present

- Visual tracking using end-to-end deep siamese neural network and similarity learning
- Small object detection using deep convolutional neural network and multi-task learning

Vision-based Object Localization and Tracking for Small UAV Sensing System 2015.8 – 2016.8

- Designed a real-time and automatic single object tracker for improving the flight safety of small UAV via the integration of salient object detection and tracking into a dynamic Kalman filter model, thus leveraging the contextual information to solving localization problem towards scaling adaptive tracking for real world applications.

Skills

- Programming: Python, C++, Matlab
- Software packages: Caffe, OpenCV, MathConvNet, TensorFlow, MPI (parallel computing)

Course Projects

Information Retrieval: Search Engine Design 2016.2 – 2016.5

- Implemented preprocessing on raw text data, and collaboratively created a search engine in a team of three based on dynamically feeding data to the search engine using a multi-threads web crawler.

Machine Learning: Dropout Prediction on a MOOC Learning Platform 2015.9 – 2015.12

- Performed data understanding and feature selection of the large-scale raw MOOC learning data, and organized a team of three to collaboratively achieve desired performance improvement based on the strategy of ensemble learning.

Publications

1. **Y. Wu**, Y. Sui and G. Wang, "Vision-based Real-Time Object Localization and Tracking for UAV sensing system", submitted to IEEE Trans. Circuits Syst. Video Technol., under review.
2. S. Bharati, S. Nandi, **Y. Wu**, Y. Sui and G. Wang, "Fast and Robust Object Tracking with Adaptive Detection", The 28th IEEE ICTAI, November 2016, San Jose, CA USA.

Educational History

M.S. in Electrical Engineering, **Tufts University**, Medford, MA, USA 2015

M.E. in Electrical and Communication Engineering, **GUCAS**, Beijing, China 2012

B.S. in Physics, **Hunan Normal University**, Changsha, China 2009