Xin Ma

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Education

- **The University of Texas at Arlington (UT Arlington)** — Arlington, TX

  Ph.D., Computer Science, GPA: 3.7/4.0 — *Sept. 2018 - present*
  Advisor: *Won Hwa Kim*

- **The State University of New York at Buffalo (UB)** — Buffalo, NY

  M.Sc. Computer Science, GPA: 3.6/4.0 — *Sept. 2015 – June 2018*

- **Beijing University of Posts and Telecommunications (BUPT)** — Beijing, CHN

  B.Sc. Electrical Engineering, GPA: 87/100 — *Sept. 2009 – June 2013*

Research

My research interests are Deep Learning, Computer Vision and Medical Imaging Analysis.

Publications [Google Scholar]

1. Xin Ma, Guorong Wu, Seong Jae Hwang, and Won Hwa Kim. "Learning Multi-resolution Graph Edge Embedding for Discovering Brain Network Dysfunction in Neurological Disorders". In: *International Conference on Information Processing in Medical Imaging*. Springer. 2021, pp. 253–266.

2. Xin Ma, Guorong Wu, and Won Hwa Kim. "Enriching Statistical Inferences on Brain Connectivity for Alzheimer's Disease Analysis via Latent Space Graph Embedding". In: *2020 IEEE 17th International Symposium on Biomedical Imaging (ISBI)*. IEEE. 2020, 1685–1689. **(Oral)**.

3. Hongfei Xue et al. "DeepFusion: A Deep Learning Framework for the Fusion of Heterogeneous Sensory Data". In: *Proceedings of the 20th ACM International Symposium on Mobile Ad Hoc Networking and Computing*. 2019, pp. 151–160.

4. Wenjun Jiang et al. "Towards Environment Independent Device Free Human Activity Recognition". In: *Proceedings of the 24th Annual International Conference on Mobile Computing and Networking*. 2018, pp. 289–304.

Working Experience

- Summer Intern at CCC Intelligence Solutions on Semantic Segmentation — May - Aug. 2021
- (RA) The University of Texas at Arlington — Sept. 2019 - present
- (TA) CSE4344/5344 Data Mining — Spring 2019
- (TA) CSE474/574 Machine Learning — Spring 2017, Spring 2018
- (TA) CSE431/531 Analysis to Algorithms — Fall 2016, Fall 2017

Projects

- Attention-based Semantic Multi-Style Transfer — Spring 2019

- *The main idea is to apply different artistic styles to one content image.*
- *Consider the semantic information and the attention map of the content image to make a matching between the content image and different artistic styles.*

- Human Activity Recognition and Mutliview Data Fusion   2016 - 2018

  - *Design a system to capture indoor WiFi signal changes caused by human activities (e.g., running, walking, etc.).*
  - *Utilize deep leaning techniques (CNN and RNN) to combine sensing data from different views (receivers) to increase the activity recognition performance.*

- Parallel Parameter Update for Deep Neural Network   Spring 2018

  - *Train deep learning model on different independent machines/devices parallelly.*
  - *Use Message Passing Interface (MPI) to exchange and update neural network parameters in the distributed system.*

- Feature Selection with Truth Discovery for Human Activity Recognition   2015 - 2016

  - *Truth discovery technique can iteratively calculate the reputation of each source.*
  - *Utilize truth discovery to select the important features which will be fed into the downstream classifiers (e.g., support vector machine).*

Honors

- Information Processing in Medical Imaging (IPMI) Scholarship   2021
- International Symposium on Biomedical Imaging (ISBI) Student Travel Award   2020
- The Outstanding Undergraduates Thesis Prize   June, 2013
- 2nd-class Prize of National Undergraduate Electronic Design Contest   April, 2012
- 3rd-class Prize of the 27th parts of National University Physics Competition   April, 2011

Skill Set

- Programming Related (The fluency is in the decreasing order.)

  Language Python; C; MATLAB; Java; C++;
  Software PyTorch; TensorFlow; Git; Linux; Docker;

- Research Related

  Machine Learning Familiar with most machine learning and deep learning models; Deep Clustering Techniques; Graph Neural Networks; Generative Models (e.g., VAE, GAN); Attention Mechanism (e.g., Transformer);
  Computer Vision Image Segmentation; Object Detection;
  Medical Imaging Brain Connectivity Analysis; Medical Imaging Segmentation;