

## YITING WANG

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### RESEARCH INTERESTS

Human-Computer Interaction, Multimodal, Transfer learning, Deep learning Algorithm

### EDUCATION

Cornell University

**Master of Engineering, Electrical and Computer Engineering**

**Jul.2017 - Dec.2018**

*Project:* Close-loop Brain-Heart Machine Interface System

Shanghai University

**Bachelor of Engineer, Electrical Engineering and Automation**

**Sep.2012 – Jul.2016**

*Thesis:* Simultaneous Localization and Mapping Based on Particle Filter

*Honors:* Excellent Graduate of Shanghai | Academic Major Award | Excellent Student and Volunteer

### PUBLICATION

**Yiting Wang**, Weibang Jiang, Rui Li, Bao-Liang Lu. "Emotion Transformer Fusion: Complementary Representation Properties of EEG and Eye Movements on Recognizing Anger and Surprise." to appear in IEEE BIBM 2021

Li, Rui, **Yiting Wang**, and Bao-Liang Lu. "A Multi-Domain Adaptive Graph Convolutional Network for EEG-based Emotion Recognition." Proceedings of the 29th ACM International Conference on Multimedia. 2021.

### RESEARCH EXPERIENCE

**Shanghai Jiao Tong University, Intern, Shanghai**

**Mar.2021 – Current**

Brain-Like Computing & Machine Intelligence laboratory

- Focusing on multimodal, attention mechanism and transfer learning methods with electroencephalogram (EEG) and eye movement signals for emotion recognition.
- Implemented experiments to collect EEG and eye movement signals of anger, surprise and neutral emotion states, and designed Emotion Transformer Fusion method to take advantages of the complementary information of two modalities for recognizing anger and surprise emotion states. -- Result in the publication of BIBM
- Assisted the work of utilizing graphic neural network and critical connection to improve the performance of emotion recognition on multiple classes. -- Result in the publication of ACM MM
- Engaging in daily research work of the lab including conducting and participating in experiments collecting data, and designing and implementing two website for datasets application and review.

**Cornell University, Master, Ithaca, NY**

**Sep.2017 – Nov.2018**

Department of Electrical and Computer Engineering

- Constructed a feedback system consisting of an electrocardiogram (ECG) device and micro-controller, which analyzed heart rates with the Pan Tompkins Algorithm to reflect and adjust human emotion.
- Framed a Matlab interface with two channels to visualize data from heart and brain, which also controlled settings of the LED lights for reflecting heart beats during the test stage.
- Designed a four-layer convolutional neural network using PyTorch to recognize handwritten digits (MNIST dataset with customized testing set) with data corruption, those accuracy was 0.95 at the end of competition.

**Shanghai University, Bachelor, Shanghai**

**Sep.2014 – May.2016**

School of Mechatronic Engineering and Automation

- Designed and implemented a smart cup as the leader of five, which could detect water temperature, user motion, amount of water and also work as a blender.
- Developed an Android App for the smart cup showing the diagram of the amount of water user drinks, which can also remind users drinking water and analyze their lifestyle.

- Proposed an improved particle filter algorithm used for simultaneous localization and conducted experiments on MIT Laster dataset to demonstrate the efficiency of proposed method.

## WORKING EXPERIENCE

**Siemens Industrial Software .Inc., Advanced Product Engineer, Shanghai**

**Jan.2019 - Current**

Visualization team of Architecture department

- Played essential part in two major projects related to material and texture rendering and appearance management in NX which is an advanced high-end CAD/CAE/CAM software developed in C++ with technologies like computer graphic and OpenGL. Teams from US, India and China were involved.
- Leading one prove of concept project regard to changing render engine for new type of material with two other members of the team.
- Offer online and in-person training sessions for new employees and interns.

**Siemens Industry, Inc., Technical Intern, New Kensington, PA, US**

**May.2018 – Aug.2018**

Digitization Strategy Department

- Developed all functionalities and User Interface of Android APP in Java independently, which utilizing several Amazon Web Services (AWS) applications to manage device data and user registration.
- Designed two python models to finish tasks automatically and efficiently. Created an APP from scratch was challenging but fun. Enjoyed the moment that finally solved the issues one by one and the process of investigating the problem.

## SKILLS

Language: **Chinese**– native language

**English**– speak fluently and read/write with high proficiency. TOEFL 105.

Technology: C++, Python, Matlab, Machine learning algorithm and data process.

Presenting: Present the poster section of master project final defense