Zitong Lu

Address: Room 303, East China Normal University old library
No. 3663 Zhongshan North Road, Putuo District
Shanghai, China 200062
Mobile phone: (+86) 18672971220
Email: zitonglu1996@gmail.com / zitonglu@outlook.com
Personal Homepage: https://zitonglu1996.github.io

(Update by 02/2020)

EDUCATION BACKGROUND

09/2018- Present **Master of Science, Cognitive Neuroscience**
East China Normal University **Shanghai, China**
The Institute of Cognitive Neuroscience, School of Psychology and Cognitive Science
Advised by **Yixuan Ku**, **Yong-di Zhou** & **Huimin Wang**, Overall GPA: 85.3 / 100

09/2014-06/2018 **Bachelor of Engineering, Software Engineering**
Northeastern University **Shenyang, China**
Department of Software Engineering, Software College
Overall GPA: 84.6 /100

RESEARCH INTERESTS

Working memory, Attention, Visual short-term memory (VSTM), Multi-voxel pattern analysis (MVPA), Representational similarity analysis (RSA), Machine Learning, Deep Learning.

PROGRAMMING & EXPERIMENT SKILLS

Computer Languages: **Python**, **C**, **C++**, **MATLAB**, **Java**
Software & Toolboxes: **EEGLAB**, **SPM**, **NeuroRA**, **Tensorflow**, **Pytorch**, **Caffe**
Experimental experiences: **EEG**, **fMRI**, **Eye tracker** and **TMS**

PUBLICATIONS

Lu, Z*., & Ku, Y. (submitted). NeuroRA: A Python toolbox of representational analysis from multi-modal neural data.

RESEARCH EXPERIENCE

Related to **Cognitive Neuroscience:**

Feature Binding in Visual Short-Term Memory by EEG Decoding (03/2019 - Present)

Explored how memory were stored and how different basic visual features and objects were represented in our brain in VSTM.

Dynamic Representation between Deep Neural Network and Human Brain in Visual Short-Term Memory (04/2019 - Present)

Temporal correlation between the representation of brain activity signal and the representation of different layers of artificial deep convolutional neural network in VSTM.

NeuroRA: A Python Toolbox of Representational Analysis from Multi-modal Neural Data (03/2019 – Present, continuously updated)

Designed and realized a Python toolbox (NeuroRA) for multimode (behavioral, EEG, MEG, fNIRS, ECoG, electrophysiology, fMRI) neural data representation analysis.

NeuroRA Website: https://neurora.github.io/NeuroRA/

Decoding Different Visual Features of Visual Short-Term Memory: An EEG Study (09/2018 – 03/2019)

Designed and realized a novel memory decoding model based on deep learning to decoding the attended feature(orientation) and unattended feature(position). Compared the differences of neural mechanism in different brain regions and different frequency bands and found some diagnostic indicators when could differentiate three groups.

Others:

Image Recognition and Object Detection of Fused Magnesium Furnace Based on Deep Learning (11/2017 – 05/2018)

Independently developed a piece of software for real-time working status recognition of fused magnesium furnace based on deep learning (an object detection algorithm based on Darknet, an image classification algorithm based on Caffe and a software based on Qt, C and C++).

WORKING EXPERIENCE

05/2017-2017/08 **Programmer** (as **Program Leader**) in **iSoftStone**

Developed smart parking management system based on Spring, SpringMVC and MyBatis as group leader of five members.

HONORS & AWARDS

12/2019 **Short-Term Overseas Research Scholarship**
about **USD 7,000**, by ECNU

12/2018 **Third prize**
30%, China Graduate Student Mathematical Contest in Modeling

12/2017 **Outstanding Graduate Student**
3%, Department of Education of Liaoning Province

11/2017 **Second-Class Merit Scholarship**
13%, **CNY 1,000**, by NEU

04/2017 **Meritorious Winner**
13%, Mathematical Contest in Modeling, by the COMAP of the U.S

12/2016 **First-Class Liu Dajie & Fang Wenyu's Scholarship**
<1%, **CNY 10,000**, by NEU

11/2016 **First Prize**
China Undergraduate Mathematical Contest in Modeling (Liaoning Province)

11/2016 **First-Class Merit Scholarship**
13%, **CNY 2,000**, by NEU

04/2016 **Honorable Mention**
30%, Mathematical Contest in Modeling, by the COMAP of the U.S

11/2015 **Second-Class Merit Scholarship**
13%, **CNY 1,000**, by NEU

HOBBIES

Football, music