Yirong Xiong

renata_xiong@hotmail.com

EDUCATION

Sun Yat-Sen University, Guangdong, China — **B.A. 2014-2018**
Major: Information Management and Information System
Courses: SQL, Data Visualization, Linear Algebra, Advanced Mathematics, Discrete Mathematics, Statistics for Management

Beijing Normal University, Beijing, China — **M.Sc. 2018-2021**
Major: Psychology
Courses: Computational Neuroscience(neuromatch academy 2021), Nerve Interface, Brain Imaging Data Modeling

Universität Tübingen, Germany — **M.Sc. 2021-present**
Major: Neural Information Processing
Courses: Birdsong as a Model in Cognitive and Systems Neuroscience, Neural Dynamics, Introduction of Computational neuroscience, Machine Learning, Neurophysiology, Functional Organization of Vertebrate CNS

SKILLS

Language: Shell script, MATLAB, R, Python, JavaScript (React + Node.js), Java, mySQL
Tools: FreeSurfer, FSL, Nipype, Nibabel

RESEARCH EXPERIENCE

Institute for Neurobiology, Dr. Lena Veit — **2021**
UMAP GUI

- Designed a Web-based tool for visualize and relabel syllable

Non-vocal sequential learning project

Max Planck Institute For Ornithology, Dr. Daniela Vallentin — **2022**
Song detection model training

- Train model on DAS to label syllables and female calls

State Key Laboratory of Cognitive Neuroscience and Learning, Dr. Gaolang Gong — **2018-2021**
Establish Corpus Callosum Topography Based on dMRI

- Designed and conducted a track generating and filtering pipeline using Mrtrix3. Obtained fibers passing through corpus callosum and connecting left and right hemispheres.
- Generated individual corpus callosum topography based on HCP S1200 Database, and established group-averaged validated topographic maps with different weighting methods.

Interactive Visualization based on Web

- Designed a Web-based tool to provide a full and interactive access to the topographic result using Three.js, WebGL and Node.js.

Data Acquisition and Preprocessing

- Defined planum temporale manually and drew masks of relative ROIs.
- Preprocessed rfMRI and dMRI raw data to connectivity matrix.

School of Information Management, Dr. Daifeng Li — **2017-2018**
Effects of Different Machine Learning Methods on ADHD classification

- Classified ADHD and control group using SVM, Logistic, CNN, RNN.

CONFERENCE

Xiong, YR., Zhao, CX., Yang, LY., Gong, GL., Mapping out cortical topography of the mid-sagittal corpus callosum. Abstract, 2020 OHBM Annual Meeting

PUBLICATION

Yang, L., Zhao, C., Xiong, Y., Zhong, S., Wu, D., Peng, S., Schotten, M. T. de, & Gong, G. (2022). Callosal fiber length scales with brain size according to functional lateralization, evolution, and development. Journal of Neuroscience. https://doi.org/10.1523/JNEUROSCI.1510-21.2022

HONORS & AWARDS

The First Prize Academic Scholarship of Beijing Normal University, 2020 & 2019
Scientific Research Contributions Scholarship of Beijing Normal University, 2019
Freshman Scholarship of Beijing Normal University, 2018