Xuefei Wang

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Education

Fudan University *Shanghai, China*

B.S. in Computer Science *Sep. 2015 - Exp. Jul. 2020*

- GPA: 3.62/4.0, Outstanding Student Scholarship, Second Grade Prize (5 times)
- Computer Science Coursework: Algorithm Design and Analysis, Digital Signal Processing, Operating Systems, Computer Network, Computer Architecture, Nature Language Processing, Computer Vision, Information Theory and Coding, Probability and Statistics
- Biology Coursework: Biological Science Lab, Introduction to Modern Biological Science, Zoology, Zoological Experiment, Computational Neuroscience (audited), Neuroanatomy (Coursera)

University of California, San Diego *California, U.S*

Exchange Student in Cognitive Science *Sep. 2017 - Mar. 2018*

- Coursework: Linear Algebra, Software Tools and Techniques, Language Processing in the Brain (audited), Space and Time in the brain (audited)

Skills & Qualifications

Coding Skills:

- Python (Proficient), Matlab (Proficient), C/C++, Java, SQL, R, Unix shell scripting, Verilog/System verilog (hardware programming)

Language Skills:

- Chinese, English (TOEFL: 107, GRE: 326)

Research Experience

Systems Neuroscience Lab, University of California, San Diego *California, U.S*

Intern (Under the direction of Professor Douglas Nitz) *Dec. 2017 – Feb. 2018*

- Processed behavior and spikes data from 8 rats, 1044 neurons from a spatial working memory task
- Employed a novel decision tree method to quantify the neural correlates on the single neuron level and demonstrated the differences among three brain regions, analyzed odd-even correlation matrices with GLM and LOCO methods to quantify the ensemble result
- Tracked task-phase specific alterations in theta-frequency spike phase precession

Speech, Language and Neuroscience Group, New York University Shanghai *Shanghai, China*

Intern (Under the direction of Professor. Xing Tian) *Jul. 2018 – Sep. 2018*

- Developed a topography-based method to provide a full temporal profile of ERP components, innovatively employed cosine similarity matrix and edge detection techniques to ensure robustness to noise
- Developed a new way to detect and quantify temporal variance in single trials, and to align trials with topography projection
- Implemented the above two methods into an open-source toolbox, and tested its validity with empirical datasets
- Processed EEG ERP data from a two-word semantic priming study, analyzed semantic representation similarity between the word vector embeddings form NLP models and ERP responses

Neural Basis of Perception Lab, Institute of Neuroscience, Chinese Academy of Science *Shanghai, China*

Intern (Under the direction of Professor. Ninglong Xu) *Jan. 2019 – Sep. 2019*

- Conducted projection-specific rabies tracing on auditory neurons to profile brain-wide input distribution, identified the difference in connection patterns between Cortical-Cortical and Cortical-Subcortical projecting neurons
- Built an FPGA-based sound generator module for time-reliable and waveform-flexible sound delivering, and enabled the possibility of different experiment designs

Manuscript in progress

Wang, X., Zhu, H.,& Tian, X.(2019) Revealing the Temporal Dynamics in Non-invasive Electrophysiological recordings with Topography-based Analyses. bioRxiv doi: 10.1101/779546

Extracurricular Activity

Fudan Qiuye Subtitle Group *Shanghai, China*

Team Recruiter *Sep. 2016 - Sep. 2017*

- Organized and recruited 70 members to translate and create subtitles for videos to popularize scientific knowledge to the public

Fudan Biology Nonprofit Organization *Shanghai, China*

Volunteer Coordinator *Feb. 2016 - Jul. 2017*

- Monitored and maintained off-campus voluntary programs, collaborated with institutes including Hospice Care Center, Shanghai Sea Museum, Shanghai Zoo

Fudan Architecture and Art Association *Shanghai, China*

Program Manager *May. 2016 - Jan. 2018*

- Organized Seminars and Workshops, invited professors and experts on Architecture, to promote the knowledge of architecture