

JIZHENG DONG

Westlake University ◊ 600 Dunyu Road, Hangzhou, China ◊ 310030
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EDUCATION

Department of Mathematics, Nanjing University Sep 2016 - Jun 2020
B.S. in Information and Computational Science (Applied Mathematics) GPA 4.23/5.00

RESEARCH INTEREST

3D Behavior Recording, Behavior Data Analysis,
Neuron Activity Encoding and Decoding, Synaptic plasticity

PUBLICATION AND PRESENTATION

Poster: Gesture analysis during social interactions in Drosophila Oct 2021
J Ning, J Dong, X Zhang, Z Li, J Wang, D Chen, Q Liu, Y Sun
CSHL Neurobiology of Drosophila, 2021

RESEARCH EXPERIENCE

Lab of Systems Neuroscience & Neuroengineering, Westlake University Oct 2020 - Present
Research Assistant, supervised by Professor Yi Sun Hangzhou, China

- **Project: 3D Behavior Recording of Drosophila**
- Real-time 2D key points detection of Drosophila and computational reconstruction of 3D posture based on detection result of 2D key points from multi-view cameras.
- Training convolutional neural network to predict 3D posture based on monocular top-view image for multiple animals.
- **Project: Visual-motor Transformation During Courtship**
- Behavior classification by k-means clustering method and data visualization by Uniform Manifold Approximation and Projection (UMAP).
- Statistical measurement for male-female relationship in different behaviors.
- Motion coordination analysis on how flies coordinate different body parts to produce movement, including forward walking, crab walking, wing extension.

Institute of Nanshu Data, Nanjing University Aug 2020 - Sep 2020
Research Intern, supervised by Professor Ting Wu Nanjing, China

- **Project: Steel Defect Detection**
- Defect detection of industrial steel products using segmentation model and image processing algorithms.

Institute of Brain and Cognitive Science, NYU Shanghai Jul 2019 - Aug 2019
Research Intern, supervised by Professor Sukbin Lim Shanghai, China

- **Project: Inferring Synaptic Plasticity Rule**
- Development of a computational method to infer synaptic plasticity rule under the assumption of random connection in neuron population.

Shanghai Medical College, Fudan University
Research Intern, supervised by Professor Jiayi Zhang

Jul 2018 - Aug 2018
Shanghai, China

- **Project: Imitation Behavior of Rodents**
- Construction of experimental equipment using Raspberry Pi, cameras, and mechanical sensors for mice behavior recording.
- Correlation analysis between the chewing behavior and vision of mice under peer influence.

HONORS AND AWARDS

The National Basic Subject Top-notch Talent Scholarship
The People's Scholarship in China

SKILLS AND HOBBIES

Programming	Python, MATLAB, R, C++
CS	Image Processing, SQL, LaTeX
Leadership	Vice-Chairman of NJU Leadership Club, Originator of <i>Flint</i> Interdisciplinary Colloquium
Sports	Archery(Coach), Marathon(1*42km, 5*21km)