JIZHENG DONG

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EDUCATION

Department of Mathematics, Nanjing University　　　　　Sep 2016 - Jun 2020(expected)

B.S. in Information and Computational Science (Applied Mathematics)　　GPA 4.23/5.00

RESEARCH INTEREST

Computational Neuroscience	Working Memory, Synaptic Plasticity, Network Topology, Neural Encoding and Decoding
Applied Mathematics & Statistics	Numerical Methods of PDE, Data Mining, Data Analysis
Machine Learning	Neural Network Interpretability, Adversarial Attack and Defense

RESEARCH EXPERIENCE

Department of Computer Science, Nanjing University　　　　　Dec 2019 - present
Research Intern, supervised by Professor Yang Gao　　　　　*Nanjing, China*

· Using filter and edge detection methods to modify the structure of the neural network to defense adversarial attack.

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

· Developed a computational method to infer synaptic plasticity rule under the assumption of random connection in the recurrent neural network.
· Provided a feasible explanation for the information storage mechanism in the neural network when it received several different stimuli.

Undergraduate Innovation Project, Nanjing University　　　　　Sep 2018 - Jan 2019
Group Leader, supervised by Professor Jun Wang　　　　　*Nanjing, China*

· Extracted the feature information from the protein sequences.
· Predicted the structure of protein using recurrent neural network.

Institutes of Brain Science, Fudan University　　　　　Jul 2018 - Aug 2018
Research Intern, supervised by Professor Jiayi Zhang　　　　　*Shanghai, China*

· Developed experimental devices to record the behavior of rodents.
· Analyzed the correlation between the chewing behavior and vision of mice under peer influence via recorded data.
· Proposed an algorithm that processes images of neurons and counts the dyed neurons more effectively than the previous method.

HONORS AND AWARDS

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

SKILLS AND HOBBIES

Programming	MATLAB, R, Python, C++
CS	Image Processing, SQL, LaTeX, Deep Learning(PyTorch, TensorFlow)
Leadership	Vice-Chairmen of NJU Leadership Club,
	Originator of *Flint* Interdisciplinary Seminar
Sports	Archery, Marathon, Soccer

RELEVANT COURSES

Biology & Neuroscience	Introduction to Neuroscience, Cell Biology,
	Basic Biological Technology
Applied Mathematics	Numerical Methods and Experiments, Partial Differential Equations,
	Numerical Methods of PDE
Statistic	Probability Theory, Mathematical Statistics,
	Biostatistics, Multivariate Statistical