

Xinyi SHANG

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EDUCATION BACKGROUND

Brandeis University

B.S. in **Biology** with Honors; Minor in **Computer Science**

GPA: 3.829/4.0; *summa cum laude*; Dean's List 2020 - 2023

Waltham, MA

09/2019-06/2023

Columbia University, Mailman School of Public Health

M.S. in Biostatistics

New York, NY

08/2023-Exp 05/2025

PROJECTS

Senior Thesis

06/2022-06/2023

Dynamical Synaptic Strengths and its Effect on the Discrimination of Sequential Stimuli

Advisor: Prof. Paul Miller

- Study the short-term synaptic plasticity's effect in the discrimination of different stimuli sequences in an randomly connected attractor network. Perform analysis with a computational neuroscience model
- Performed clustering and confusion matrix to investigate the networks ability to discriminate with different parameter sets
- Results showed the presence of facilitation increased the network's stability and depression made the network more sensitive to different signals. The network with both facilitation and depression demonstrated the most complex behavior.

Improve the network performance based on "Pruning Filters for Efficient ConvNets"

COSI 159A Computer Vision Course Project

04/2023-05/2023

Advisor: Prof. Hongfu Liu

- Implemented the network from the paper by Hao Li et al., focusing on pruning of filters with the smallest weight to improve computational efficiency and reduce model size. Explored the transition from VGG16 to VGG19 architectures, and introduced Dropout regulation to VGG16 model, resulting in nominal improvements
- Employed quantization methods to decrease the size of the VGG16 model while maintaining accuracy levels

WORK EXPERIENCE

R&D Intern, Tiangen Biotech(Beijing) Co., Ltd

02/2021-05/2021

- Purified genomes from blood and plants
- Evaluated the effective of genome purification kits
- Helped test the degradation of DNA by different RNase preservative

EXTRACURRICULAR ACTIVITY

Volunteer, Language Empowering Action Project

09/2021-12/2022

- Led English class once a week and tutored adults from non-English-speaking countries
- Helped them improve their language skill for job applications, citizenship tests, and so on

Volunteer, Leland Home (C2E program)

09/2019-12/2019

- Visited Leland Home weekly and accompanied the elderly

SKILLS

Programming: Python, Matlab, Java, JavaScript, R

Language: Chinese, English