Yusi Chen

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Education

University of California, San Diego

PhD candidate in Computational Neuroscience (Biological Sciences)
Advisor: Dr. Terrence Sejnowski (Salk) 09/2017 – Present

M.S. in Electrical Engineering
Track: Intelligent Systems, Robotics & Control 09/2017 – 02/2021

Equivalent M.S. coursework in Mathematics
Track: Probability Theory & Applied Statistics 09/2017 – Present

Tsinghua University

B.S. in Pharmaceutical Sciences; Graduated with honors 09/2013 – 07/2017

Awards

Kavli-Helinski Fellowship, Division of Biological Sciences 08/2021
National Scholarship of China 09/2016

Publications

- Chen, Y., Zhang, H. & Sejnowski, T.J. (2021). Hippocampus Hippocampus as a generative circuit for predictive coding of future sequences. *Society for Neuroscience, 2021.*
- Chen, Y., Rosen, B. Q., & Sejnowski, T. J. (2021). Dynamical differential covariance recovers directional network structure in multiscale neural systems. *bioRxiv, presented at Cosyne 2021*
- Chen, Y., Bukhari, Q., Lin, T.W. & Sejnowski, T.J. (2021) Differential covariance of fMRI predicts structural connectivity and behavior. *bioRxiv, presented at Cosyne 2020*
- Lin, T. W.*, Chen, Y.*, ... & Sejnowski, T. J. (2020). Differential covariance: A new method to estimate functional connectivity in fMRI. *Neural Computation*, 32(12), 2389-2421.
- Zhou, J.*, Ma, J.*, Chen, Y.*, ..., & Ecker, J. R. (2019). Robust single-cell Hi-C clustering by convolution-and random-walk–based imputation. *Proceedings of the National Academy of Sciences*, 201901423.
- Chen, Y., ..., & Ma, P. (2017). Population pharmacokinetic analysis of tacrolimus in Chinese myasthenia gravis patients. *Acta Pharmacologica Sinica*, 38(8), 1195.
- Chen, Y., …, & Ji, J. (2020). Dynamics of HBV surface antigen related end points in chronic hepatitis B infection: a systematic review and meta-analysis. *Antiviral Therapy*, 25(4), 203-215.

Teaching and Mentoring

- Teaching assistant for Computational Neuroscience 03/2019-06/2019 & 03/2021-06/2021
- Teaching assistant for Bioinformatics Lab 01/2020-03/2020
- Mentored junior graduate student 02/2021-Present

Courses and Skills

- Mathematical courses: Probability theory; Applied statistics; Nonlinear theory; Stochastic dynamical system; Sensing and estimation in robotics; Statistical learning; Information theory
- Computational analysis skills: Python (pytorch), MATLAB, R
- Biological courses: Molecular biology; Genetics; Cell biology; Predictive Mind