CURRICULUM VITAE

Huangqingbo (Paul) Sun
Postdoctoral Scholar in Computational Biology

Stanford University
443 Via Ortega
Stanford, CA 94305

Email: sunh@stanford.edu

EDUCATION

Huazhong University of Science and Technology, Wuhan, China, B.S., 2015, Opto-electronics.
Carnegie Mellon University, Pittsburgh, PA, M.S., 2021, Automated Science.
Carnegie Mellon University, Pittsburgh, PA, Ph.D., 2024, Computational Biology (Dr. Robert F. Murphy), Minor in Machine Learning.

PROFESSIONAL EXPERIENCE

Postdoctoral Research Fellow, Department of Bioengineering, Stanford University, 2024-.

PUBLICATIONS

Preprints

1. Hansen, J., Sun, H., Kahnert, K., Johannesson, A., Tzavlaki, K., Winsnes, C., Pohjahnen, E., Fall, J., Uhlen, M., Axelsson, U., and Lundberg, E., 2024. Intrinsic Diversity in Primary Cilia Revealed Through Spatial Proteomics. *bioRxiv*, pp.2024-10.
2. Sun, H., Yu, S., Casals, A.M., Bäckström, A., Lu, Y., Lindskog, C., Lundberg, E. and Murphy, R.F., 2024. Flexible and robust cell type annotation for highly multiplexed tissue images. *bioRxiv*, pp.2024-09.

Journal and full conference papers

1. Sun, H., Li, J. and Murphy, R.F., 2024. Expanding the coverage of spatial proteomics: a machine learning approach. Bioinformatics, 40(2), p.btae062.
2. Sun, H., Soh, A.W., Mitchell, L.E., Pearson, C.G. and Murphy, R.F., 2023. Basal body organization and cell geometry during the cell cycle in *Tetrahymena thermophila*. *Molecular Biology of the Cell*, p.mbc-E22.
3. Sun, H., Fu, X., Abraham, S., Jin, S. and Murphy, R.F., 2022. Improving and evaluating deep learning models of cellular organization. *Bioinformatics*, *38*(23), pp.5299-5306.
4. Sun, H. and Murphy, R.F., 2021. Evaluation of categorical matrix completion algorithms: toward improved active learning for drug discovery. *Bioinformatics*, *37*(20), pp.3538-3545.
5. Sun, H., Zhou, W., Zhang, Z. and Wan, Z., 2018. A MEMS variable optical attenuator with ultra-low wavelength-dependent loss and polarization-dependent loss. *Micromachines*, *9*(12), p.632.

Short conference and workshop papers

1. Sun, H. and Murphy, R.F., 2020. An improved matrix completion algorithm for categorical variables: application to active learning of drug responses. In *ICML 2020 Workshop on Real World Experiment Design and Active Learning*.

Book chapters

1. Sun, H. and Murphy, R.F., CellOrganizer: Learning Morphological, Spatial, and Dynamic Models for Cellular and Subcellular Components. *Imaging Cell Signaling, Methods in Molecular Biology, 2800*(16), in press.

PRESENTATIONS

1. Data-driven Optimization of Biomarker panels in Highly Multiplexed Imaging. The QBI Multiplex Image Analysis 2023 workshop, Oct, 2023 (San Diego).
2. CellOrganizer: Learning Morphological, Spatial, and Dynamic Models for Cellular and Subcellular Component. BIRS Workshop on Mathematical Methods for Exploring and Analyzing Morphological Shapes across Biological Scales, Sep, 2023 (Banff).
3. Active Machine Learning for Biological Discovery. European Society of Medicine General Assembly, July, 2022 (virtual).

HONORS

Merit Fellowship, Computational Biology Department, Carnegie Mellon University, 2019-2021.

MENTORING EXPERIENCES

Jiayi Li (MS, 2022 Spring - 2023 Fall)
Shiqiu Yu (MS 2023 Summer – 2024 Summer)
CMU Undergraduate AI Mentoring Program (2023 Fall, 2024 Spring)

COURSES AND TUTORIALS

02-680 Essential Mathematics and Statistics for Scientists: 2021 Fall, Carnegie Mellon University (TA).
02-750 Automation of Scientific Research: 2022 Spring, Carnegie Mellon University (TA).

PROFESSIONAL SERVICE

Reviewing

Bioinformatics, Cell Reports Methods, ICLR 2024 Workshop on Machine Learning for Genomics Explorations, Cell systems/