CURRICULUM VITAE
Huangqingbo (Paul) Sun
Computational Biology Ph.D. Candidate

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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

Research Assistant, Carnegie Mellon University, Computational Biology Department, 2019-2023.

HONORS

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

PUBLICATIONS

- *Preprints*
  1. Sun, H., Li, J. and Murphy, R.F., 2023. Data-driven optimization of biomarker panels in highly multiplexed imaging. *bioRxiv*, pp.2023-01.29.526114.

- *Journal and full conference papers*
  1. 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*, pp.mbc-E22.
  2. 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.
  3. 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.
  4. 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.

- *Abstracts, 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. *Methods in Molecular Biology*.

PRESENTATIONS

European Society of Medicine General Assembly, "Active Machine Learning for Biological Discovery", July 2022 (virtual).
BIRS Workshop: Mathematical Methods for Exploring and Analyzing Morphological Shapes across Biological Scales, "CellOrganizer: Learning Morphological, Spatial, and Dynamic Models for Cellular and Subcellular Components", Sep 2023 (Banff).

MENTORING EXPERIENCES

Jiayi Li (MS, 2022 Spring - 2023 Fall)
Ju-chun Huang (MS 2023 Spring - 2023 Summer)
Yuxin Lu (MS 2023 Summer -)

COURSES AND TUTORIALS

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

PROFESSIONAL SERVICE
Reviewing

Bioinformatics, Cell Reports Methods.