

Tianqing Li

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RESEARCH INTERESTS

I am a third-year PhD Candidate at Duke University, focusing on developing computational methods that address animal 3D motion capture and link behavioral dynamics to the brain activities using machine learning and computer vision.

EDUCATION

Aug 2021-Current	Duke University Ph.D. Candidate in Biomedical Engineering (Expected graduation: May 2026. GPA: 4.00/4.00) Advisor: Timothy W. Dunn	Durham, NC
Dec 2020	University of California, Los Angeles B.S. in Applied Mathematics, Bioengineering (Summa Cum Laude, Dean's List, GPA: 3.94/4.00)	Los Angeles, CA

JOURNAL PUBLICATIONS

2023	Mapping the Landscape of Social Behavior Klibaite U*, Li T* , Aldarondo D, Akoad JF, Olveczky BP, Dunn TW. Under review at <i>Cell</i> .
2023	Improved Markerless 3D Animal Pose Estimation Using Temporal Semi-Supervision Li T , Severson KS, Wang F, Dunn TW. <i>International Journal of Computer Vision</i> . Jointly appeared at CVPR CV4Animals Workshop 2022 as poster.
2022	Leaving Flatland: Advances in 3D Behavioral Measurement Marshall JD, Li T , Wu JH, Dunn TW. <i>Current Opinion in Neurobiology</i> .

CONFERENCE PROCEEDINGS

2024	Vector Quantized Representations for Efficient Hierarchical Delineation of Behavioral Repertoires Li T , Klibaite U, Akoad J, Wu JH, Dunn TW. <i>Computational and Systems Neuroscience (Cosyne)</i> .
2023	Quantitative Profiling of Social Behavior Using 3D Pose Estimation and Multi-Scale Classification Klibaite U*, Li T* , Aldarondo D, Akoad JF, Zmarz P, Olveczky BP, Dunn TW. <i>McKnight Foundation Annual Meeting</i> .
2023	Capturing the Social Spectrum in ASD Rats Klibaite U, Li T , Aldarondo D, Dunn TW, Olveczky BP. <i>Bulletin of the American Physical Society</i> .
2021	A Multi-Pronged Evaluation for Image Normalization Techniques Li T , Wei L, Hsu W. <i>International Symposium on Biomedical Imaging (ISBI)</i> .

PROFESSIONAL EXPERIENCES

May-Aug 2024	Incoming Research Scientist Intern, Meta Reality Labs	New York, NY
Aug 2021-Current	t.Dunn Lab (Doctoral Thesis Research), Duke University <ul style="list-style-type: none">Develop and deploy neural networks for 3D pose estimation and tracking of laboratory animals, facilitating quantitative studies of social behaviors across rodent models of autism [Code].Build unsupervised methods for abstracting human-interpretable movement motifs from pose time-series for understanding and simulating realistic animal behaviors.Develop cross-modality models that correlate and integrate behavioral actions with neural activities.	Durham, NC
Apr 2020-Apr 2021	Research Assistant, Hsu Lab, UCLA Medical & Imaging Informatics <ul style="list-style-type: none">Investigated 3D generative models for image quality enhancement of low-dose lung CT scans. Performed multi-pronged analysis on its impact on diagnostic features and downstream clinical tasks.Developed semi-/self-supervised deep learning models for breast mass detection and classification in ultrasound scans [Code, Code].	Los Angeles, CA
Nov 2019-Mar 2020	Student Researcher, Wu Lab <ul style="list-style-type: none">Conducted 3D printing prototyping and tested different materials used for dental aligner development.	Los Angeles, CA
Sep 2018-Sep 2019	Student Researcher, HHMI Undergraduate Research for Translational Biophotonics <ul style="list-style-type: none">Implemented algorithms for image processing, calibration and registration in developing fluorescent microscopy for biological samples using MATLAB. Presented at HHMI Undergraduate Conference, UCLA, 2019.	Los Angeles, CA

TEACHING

2022, 2023	Teaching Assistant BME 590: Introduction to Biomedical Data Science	Durham, NC
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PRESENTATIONS

2023	Harvard Neurolunch "High-Resolution 3D Tracking of Freely Interacting Animals for Multi-Scale Classification of Social Behavior"	Cambridge, MA
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AWARDS

2022-2023	Robert Plonsey Fellowship	Durham, NC
2022, 2024	Duke Conference Travel award	Durham, NC