

Cassandra Tong Ye

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EDUCATION

Massachusetts Institute of Technology

Advisors: Sixian You, Rob Miller

B.S Computer Science and Engineering

2020 - Current

RESEARCH EXPERIENCE

MIT Computational Biophotonics Lab

Undergraduate Researcher at Sixian You's Lab

Sept. 2022 – Present

Cambridge, MA

- Using computational imaging models to facilitate image acquisition of super-resolution biomedical images.
- Optimizing denoising models for autofluorescence multiphoton microscopy images
- Decreasing performance loss and increasing accuracy of masked autoencoding model outputs.

MIT Computer Science and Artificial Intelligence Labs

Undergraduate Researcher at Rob Miller's Lab

September 2021 – May 2022

Cambridge, MA

- Iterated through novel methods of notation for rock climbing.
- Integrated software to enhance performance of rock climbers through motion sensing, regularly generated schedules, and facilitated notation of limb movements.

INDUSTRY EXPERIENCE

Oxford NanoImaging

Business Development Intern

Jun. 2022 – Aug. 2022

Oxford, United Kingdom

- Initiated dialogue with the Center of Biologics Evaluation and Research (FDA) to better understand the federal regulations and restrictions regarding extracellular vesicles (EVs) and current characterization products.
- Facilitated webinars to educate academic research facilities concerning super-res microscopy and its advantages.
- Researched and devised an emerging market penetration plan for company's core product with 130+ clients.

Microsoft

Program Manager Intern

Jan. 2022

Cambridge, MA

- Researched dependency relationships highlighting inefficiencies of several product engineering flows.
- Studied and developed a simpler method to facilitate the onboarding of new and existing Microsoft employees and clients.

AWARDS

- MIT Sandbox Innovation Fund Program Recipient **2023**
- MIT Artificial Intelligence Alignment Fellowship **2023**
- MIT EECS Philips Undergraduate Research and Innovation Scholar **2022-2023**
- International Science and Engineering Fair Finalist **2018, 2019, 2020**
- Siemens Competition Semifinalist **2018**

PUBLICATIONS AND CONFERENCES

- "*Learned, Uncertainty-driven Adaptive Acquisition for Photon-Efficient Multiphoton Microscopy*"
Cassandra T. Ye, Jiashu Han, Kunzan Liu, Anastasios Angelopoulos, Linda Griffith, Kristina Monakhova, Sixian You: In review process at *Optica* (2023)
- "*Evaluating and optimizing denoising methods for multiphoton microscopy*"
Selected for talk at SPIE Photonics West (2024)
- "*Facilitating Detection of Tumor Margins via Image Completion of Multiphoton Microscopy*"
Presented at MIT SuperUROP Poster Session (2022)

SERVICE & COMMUNITY INVOLVEMENT

Laboratory Assistant

June 2023 – August 2023

MIT Introduction to Technology, Engineering and Science (MITES)

Cambridge, MA

- Instructed underrepresented high school seniors in electronic circuits and fostered a positive learning environment.

Vice President of Philanthropy

September. 2022 – September 2023

MIT Alpha Chi Omega

Cambridge, MA

- Organized spring and fall philanthropy events while coordinating 100 volunteer shifts.
- Raised 2k in donations for the Boston Area Rape Crisis Center.

Resident Peer Mentor

September. 2021 – June 2022

MIT McCormick Hall

Cambridge, MA

- Organized events to involve incoming freshmen in the MIT community.
- Provided academic and personal mentorship to my cohort of underclassmen.

McCormick REX Chair

May. 2021 – September 2021

MIT McCormick Hall

Cambridge, MA

- Managed a budget of 11k, to evenly distribute funds across multiple events.
- Negotiated with vendors and potential sponsors to deliver on the projected budget.
- Oversaw the planning of 15+ events, involving the recruitment and supervision of 30+ volunteers.

SKILLS AND INTERESTS

Skills: Python, Java, Pandas, Scikit-learn, Mandarin (Fluent), Spanish (Proficient)

Interests: Running, Rock Climbing, Crocheting, Piano