

# Michael Lin

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Graduate researcher at Carnegie Mellon University with a specialization in building AI systems and working with large-scale data. Master's student with demonstrated research experience and publications in major journals.

## Education

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### Carnegie Mellon University

Master of Science in Computer Vision

Pittsburgh, PA

*Expected graduation: December 2026*

- **Department:** Robotics Institute of the School of Computer Science

- **Relevant Coursework:** Machine Learning, Advanced Computer Vision, Learning for 3D Vision

### Boston College

Bachelor's Degree

Chestnut Hill, MA

*August 2021 – May 2025*

- **Majors:** Double major in Computer Science and Mathematics

## Work Experience

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### Computer Vision Researcher (Near Earth Autonomy)

*January 2026 – present*

- Conducted research in vision-based runway localization framework for aerial vehicles using deep learning and geometric registration techniques

### Graduate Research Assistant (Carnegie Mellon University)

*January 2026 – present*

- Investigated language embeddings in 3D Gaussian splatting in urban environments for 3D + time scene understanding

### Undergraduate Research Fellow (Boston College)

*January 2022 – August 2025*

- Created a UNet machine learning model for point segmentation in collaboration with USC in 2023, achieving 0.7 precision over testing across hundreds of test cases
- Developed and deployed a 3D-Unet model to generate volumetric instance segmentation from electron microscopy volumes in collaboration with Columbia University during 2024, achieving a precision of over 0.95 on testing volumes and generating 50000+ segmentations during implementation.
- Designed and implemented a unified machine learning package from multiple AI models and tools (microSAM, 3D-Unet, Optuna, etc.) for 3D volume segmentation in collaboration with a multidisciplinary team from UMICHIGAN during 2025, achieving an F-1 score of over 0.8 on testing volumes and generating 10000+ neuron fiber segmentations during deployment

## Technical Skills

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*Languages:* Python, Java, C, C++, R

*Computer Vision:* Pytorch, OpenCV, Numpy, PIL, scikit, Matplotlib, Scipy

## Publications (\* indicates shared first author)

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Lirong Zheng, Michael Lin, et al (2025). Scalable and multiplexed recorders of gene regulation dynamics across weeks. Accepted into Nature.

Shulin Zhang, Michael Lin, et al (2025). Ultrastructural reconstruction of the endodermal nerve net of *Hydra vulgaris*. <https://doi.org/10.1016/j.cub.2025.10.001>.

Michael Lin\*, et al. VesicleEM: A Comprehensive Vesicle Analysis Toolbox for Volumetric Electron Microscopy. In review for PLOS Computational Biology.