

# Guangyuan Weng

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177 Huntington Ave, FL 22, Boston, MA 02115

## EDUCATION

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### Northeastern University

Sep 2021 - Aug 2026 (Expected)

Ph.D. Student, Computer and Information Sciences

*Boston, MA*

- Advisor: Prof. Huaizu Jiang
- Research Interests: Visual Compositional/Cognitive Reasoning

### ShanghaiTech University

Sep 2017 - Jul 2021

B.E., Computer Science and Technology

*Shanghai, China*

- Advisors: Prof. David J. Crandall (Indiana University), Prof. Haipeng Zhang

## RESEARCH EXPERIENCE

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### Visual Intelligence Lab, Northeastern University

Sep 2021 - Present

*Research Assistant* (Advisor: Huaizu Jiang)

*Boston, MA*

- Exploring visual models' induction capability by few-shot learning and compositional reasoning of novel concepts
- Learning novel concepts contrastively by modeling them using synthetic images and graphs
- Transferring lessons learnt from synthetic data to real world settings for better human-object relation representation

### IU Computer Vision Lab, Indiana University

Jul 2020 - Jun 2021

*Remote Research Intern* (Advisor: Prof. David J. Crandall)

*Bloomington, IN*

- Focused on recognizing human actions in videos captured from *egocentric cameras* (e.g., google glass)
- Discovered how action-object associations in datasets influence the generalization ability of action recognition models
- Trained a *graph convolutional neural network* to model the positions and sizes of hands and objects in the videos

### Financial Intelligence Lab, ShanghaiTech University

Mar 2020 - Jun 2021

*Undergraduate Research Assistant* (Advisor: Prof. Haipeng Zhang)

*Shanghai, China*

- Investigated general rules of human *Venture Capital* (VC) investment behavior
- Discovered the influencing factors of VC investment behavior, e.g., focus level, academic achievements, etc.
- Constructed a *mathematical model* to simulate human choice and consequence outcomes by *Maximum Likelihood Estimation* (MLE), using large-scale data from *PitchBook Data, Inc.*

### Mobile Autonomous Robotic Systems Lab (MARS Lab)

Sep 2018 - Jan 2020

*Undergraduate Research Assistant* (Advisor: Prof. Sören Schwertfeger)

*Shanghai, China*

- Built a mapping/SLAM robot with super-precise timing and localization with hardware synchronization
- Designed a *printed circuit board* (PCB) mounted on a field robotics research platform to produce synchronized signal for all sensors (e.g., IMUs and lidars) and reduce noise of trigger signal
- Generated three high-resolution and sensor-dense datasets to evaluate the performance of SLAM algorithms

## PUBLICATIONS

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### *Action Recognition based on Cross-Situational Action-object Statistics*

- Tsutsui, Satoshi, Wang, Xizi, **Weng, Guangyuan**, Zhang, Yayun, Crandall, David, Yu, Chen
- *12th IEEE International Conference on Development and Learning* (ICDL 2022)

### *Advanced Mapping Robot and High-Resolution Dataset*

- Chen, H., Yang, Z., Zhao, X., **Weng, G.**, Wan, H., Luo, J., Ye, X., Zhao, Z., He, Z., Dong, T., Schwertfeger, S.
- *Journal of Robotics and Autonomous Systems*

## *Towards Generation and Evaluation of Comprehensive Mapping Robot Datasets*

- Chen, H., Zhao, X., Luo, J., Yang, Z., Zhao, Z., Wan, H., Ye, X., **Weng, G.**, He, Z., Dong, T., Schwertfeger S.
- Workshop on Dataset Generation and Benchmarking of SLAM Algorithms for Robotics and VR/AR of the *2019 IEEE International Conference on Robotics and Automation* (ICRAW 2019)

## ACTIVITIES

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<b>CS5330 Pattern Recognition and Computer Vision (21 Fall, 22 Fall)</b>	Sep 2022
Teaching Assistant	<i>Boston, MA</i>
<b>Upenn Curiosity AI Robotics and Smart Material Summer Camp</b>	Aug 2019
Teaching Assistant supervised by Prof. Jianbo Shi, GRASP Lab, University of Pennsylvania	<i>Shanghai, China</i>
<b>2018 IEEE ComSoc Summer School on Fog Computing</b>	Jun 2018
IEEE ComSoc, OpenFog Consortium	<i>Shanghai, China</i>

## HONORS

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<b>ShanghaiTech Merit Students (2019-2020, Top 5%)</b>	Dec 2020
ShanghaiTech University	
<b>ShanghaiTech Scholarship for Outstanding Undergraduate Students (RMB 30,000)</b>	Dec 2020
ShanghaiTech University	
<b>Global Talent Attraction Program, International Summer Research Fellowship (\$ 4,000)</b>	Feb 2020
Indiana University Bloomington	

## SKILLS

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<b>Languages</b>	Chinese (Native), English (TOEFL-iBT 112)
<b>Computer Languages</b>	Python, C++, C, Rust, MATLAB, AWK
<b>Protocols &amp; APIs</b>	PyTorch, ROS, Processing (Java), $\text{\LaTeX}$