

Thomas Weng

<https://thomasweng.com> · tweng@cmu.edu

EDUCATION

Carnegie Mellon University

Ph.D. Student in Robotics

Advisor: Dave Held

2018 - present

Pittsburgh, PA

Yale University

B.S. Computer Science & B.A. Economics

GPA: 3.77 / 4.0 with distinction in the C.S. major

Senior Thesis Advisor: Brian Scassellati

2011 - 2015

New Haven, CT

HONORS

Graduate Research Fellowship Award, National Science Foundation

2019

Graduate Research Fellowship Honorable Mention, National Science Foundation

2018

Computer Science Research Prize, Yale University

2015

Trumbull College Scholarship for Economics, Yale University

2014

Maher Family Scholarship, Yale University

2013, 2014

PUBLICATIONS

- [C5] Jianing, Q.*, **Weng, T.***, Okorn, B., Zhang, L., and Held, D. Cloth Region Segmentation for Robust Grasp Selection. *International Conference on Intelligent Robots and Systems (IROS)*. In press. IEEE, 2020. Acceptance rate: 47%
- [J1] **Weng, T.**, Pallankize, A., Tang, Y., Kroemer, O., and Held, D. Multi-modal perception and transfer learning for grasping transparent and specular objects. *IEEE Robotics and Automation Letters*, 2020. The contents of this paper were also selected by ICRA 2020 Program Committee for presentation at the conference. Acceptance rate: 42%
- [C4] **Weng, T.**, Perlmutter, L., Nikolaidis, S., Srinivasa, S., and Cakmak, M. Object Referencing through Situated Legible Projections. *IEEE International Conference on Robotics and Automation (ICRA)*, pages 8004-8010. IEEE, 2019. Acceptance rate: 44%
- [C3] Sefidgar, Y.*, **Weng, T.***, and Cakmak, M. RobotIST: Interactive Situated Tangible Robot Programming. *Proceedings of the Symposium on Spatial User Interaction*. ACM, 2018.
- [C2] Admoni, H., **Weng, T.**, and Scassellati, B. Modeling communicative behaviors for object references in human-robot interaction. *IEEE International Conference on Robotics and Automation (ICRA)*, pages 3352-3359. IEEE, 2016. Acceptance rate: 35%
- [C1] Admoni, H., **Weng, T.**, Hayes, B. and Scassellati, B. Robot nonverbal behavior improves task performance in difficult collaborations. *ACM/IEEE International Conference on Human Robot Interaction (HRI)*, pages 51-58. IEEE Press, 2016. Acceptance rate: 25%

RESEARCH AND WORK EXPERIENCE

Facebook Research and AI Mentorship Program

Visiting Researcher with Dr. Mustafa Mukadam

Working on robotics research through a joint CMU-FB program.

2021 - present

University of Washington Human-Centered Robotics Lab

Research Scientist with Prof. Maya Cakmak

Published papers on tangible robot programming and light projections for human-robot interaction [C3, C4].

2017 - 2018

Microsoft Corp., AI and Research

Software Engineer on Bing

Worked on Bing Answers for enterprise Q&A, flight booking, and the 2016 presidential election.

2015 - 2017

Yale University Social Robotics Lab

Undergraduate Researcher with Prof. Brian Scassellati

Published papers on modeling and generating robot non-verbal gestures [C1, C2].

2014 - 2015

Yale University Student Technology Collaborative Student Developer <i>Refactored full-stack Rails app and wrote integration tests to reduce technical debt.</i>	2014 - 2015
Microsoft Corp., Applications and Services Group Software Engineer Intern on Bing <i>Wrote WordPress plugins for Bing Search widgets.</i>	Summer 2014
Microsoft Corp., Applications and Services Group Program Manager Intern on Bing Ads <i>Managed the design and development of the first Bing Ads API support page.</i>	Summer 2013
JPMorgan & Chase, Credit Risk Management Office Summer Intern <i>Automated credit management processes using VBA.</i>	Summer 2012

OUTREACH

Code Haven at Yale guest speaker , New Haven, CT <i>Spoke with students at under-served New Haven public schools about STEM careers.</i>	2017
Trumbull College Mellon Forum speaker , Yale University <i>Presented thesis at a selective opportunity for seniors to share their work with peers.</i>	2015
Yale Social Robotics Lab open house , Yale University <i>Participated in semi-annual open house for approx. 100 kids and adults in the New Haven community.</i>	2015

TEACHING EXPERIENCE AND MENTORSHIP

Teaching Assistant , CMU 16-811 Math Fundamentals for Robotics	Fall 2020
Mentor , CMU Masters in Research and Software Development Team	2018 - 2019
Teaching Assistant , UW CSE 481C Robotics Capstone	Summer 2017
Sujay Bajracharya , M.S. Robotics	2020 - present
Rashmi Anil , undergraduate	2019 - present
Khush Agrawal , undergraduate	Summer 2020
Yimin Tang , undergraduate	Summer 2019
Amith Pallankize , undergraduate	2018 - 2019

SERVICE AND LEADERSHIP EXPERIENCE

Reviewer Robotics: Science and Systems (RSS) Conference on Robot Learning (CoRL) International Conference on Robotics and Automation (ICRA) NeurIPS Workshop: Black in AI	
Graduate Student Assembly Representative , Carnegie Mellon University <i>Elected representative of graduate students at the CMU Robotics Institute.</i>	2018 - present
Tour Manager , Yale Alley Cats a cappella group <i>Managed domestic and international tours for one of the nation's most well-traveled a cappella groups.</i>	2012 - 2014

TECHNICAL SKILLS

Robotics

Languages	C/C++, Python, MATLAB
Tools	ROS, MoveIt!, OpenCV, MuJoCo, OpenRAVE, Unity
Machine Learning	PyTorch, Tensorflow
Robots	Franka Panda, Sawyer, PR2, Fetch, Baxter, Kuka, Aldebaran Nao
Sensors	Azure Kinect DK, Kinect v2, Realsense, Primesense

Web Development

Languages	JavaScript, C#.NET, Python, Ruby
Frameworks	React, Node.js, Django, Ruby on Rails

Graduate Coursework

16-811	Mathematical Foundations for Robotics
16-720	Computer Vision
10-701	Machine Learning
16-711	Kinematics, Dynamics, and Control
10-703	Deep Reinforcement Learning and Control
16-782	Planning and Decision-making in Robotics
10-725	Convex Optimization
16-881	Deep Reinforcement Learning for Robotics (seminar)