Thomas Weng

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Education

Carnegie Mellon University **2018 - present**
Ph.D. Student in Robotics Pittsburgh, PA
Advisor: Dave Held

Yale University **2011 - 2015**
B.S. Computer Science & B.A. Economics New Haven, CT
GPA: 3.77 / 4.0 *with distinction in the C.S. major*
Senior Thesis Advisor: Brian Scassellati

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*. Accepted. 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

University of Washington Human-Centered Robotics Lab **2017 - 2018**
Research Scientist with Prof. Maya Cakmak
Published papers on tangible robot programming and light projections for human-robot interaction [C3, C4].

Microsoft Corp., AI and Research **2015 - 2017**
Software Engineer on Bing
Worked on Bing Answers for enterprise Q&A, flight booking, and the 2016 presidential election.

Yale University Social Robotics Lab **2014 - 2015**
Undergraduate Researcher with Prof. Brian Scassellati
Published papers on modeling and generating robot non-verbal gestures [C1, C2].

Yale University Student Technology Collaborative **2014 - 2015**
Student Developer
Refactored full-stack Rails app and wrote integration tests to reduce technical debt.

Microsoft Corp., Applications and Services Group **Summer 2014**
Software Engineer Intern on Bing
Wrote WordPress plugins for Bing Search widgets.

Microsoft Corp., Applications and Services Group **Summer 2013**
Program Manager Intern on Bing Ads
Managed the design and development of the first Bing Ads API support page.

JPMorgan & Chase, Credit Risk Management Office **Summer 2012**
Summer Intern
Automated credit management processes using VBA.

Outreach

Code Haven at Yale guest speaker, New Haven, CT **2017**
Spoke with students at under-served New Haven public schools about STEM careers.

Trumbull College Mellon Forum speaker, Yale University **2015**
Presented thesis at a selective opportunity for seniors to share their work with peers.

Yale Social Robotics Lab open house, Yale University **2015**
Participated in semi-annual open house for approx. 100 kids and adults in the New Haven community.

Teaching Experience and Mentorship

Teaching Assistant, CMU 16-811 Math Fundamentals for Robotics **Fall 2020**
Mentor, CMU Master's in Research and Software Development Team **2018 - 2019**
Teaching Assistant, UW CSE 481C – Robotics Capstone **Spring 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
Conference on Robot Learning
NeurIPS Workshop: Black in AI

Graduate Student Assembly Representative, Carnegie Mellon University **2018 - present**
Elected representative of graduate students at the CMU Robotics Institute.

Tour Manager, Yale Alley Cats a cappella group **2012 - 2014**
Managed domestic and international tours for one of the nation's most well-traveled a cappella groups.

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