

# ANDI PENG

## CONTACT

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## EDUCATION

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Ph.D.	<b>Massachusetts Institute of Technology</b> Electrical Engineering and Computer Science Advisors: Julie Shah and Jacob Andreas	Cambridge, MA
Feb 2023	<b>Massachusetts Institute of Technology</b> Electrical Engineering and Computer Science Advisors: Pulkit Agrawal and Julie Shah	Cambridge, MA
May 2018	<b>Yale University</b> , <i>cum laude, with distinction</i> B.S. Cognitive Science B.A. Global Affairs Awarded Douglas A. Beck Prize for high academic achievement, leadership potential, personal integrity, and commitment to public service	New Haven, CT

## RESEARCH POSITIONS

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Fall 2023	Research Intern, <b>Boston Dynamics AI Institute</b> Host: Jessica Hodgins	Cambridge, MA
Summer 2023	Research Intern, <b>MIT-IBM Watson AI Lab</b> Host: Chuang Gan	Cambridge, MA
Summer 2021	Research Intern, <b>Facebook AI Research (FAIR)</b> Hosts: Aravind Rajeswaran and Vikash Kumar	Pittsburgh, PA
2018 - 2020	AI Resident, <b>Microsoft Research</b> Hosts: Ece Kamar, Besmira Nushi, Emre Kiciman, Kori Inkpen	Redmond, WA
2018	Policy Intern, <b>White House Office of Science and Technology Policy (OSTP)</b> Research Associate, <b>National Institute for Standards and Technology (NIST)</b> Host: Jake Taylor	Washington, DC
2016 - 2018	Undergraduate Researcher, <b>Yale University</b> Advisor: Brian Scassellati	New Haven, CT
Summer 2016	MARTI Researcher, <b>NASA Glenn Research Center</b> Hosts: Justin Gray and Jeffrey Chin	Cleveland, OH

## FELLOWSHIPS, HONORS, AND AWARDS

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2023 - 2024	Open Philanthropy Research Grant	\$145,422
2020 - 2025	NSF Graduate Research Fellowship	\$138,000
2018	Fox Fellowship, University of Cambridge	\$30,000 ( <i>declined</i> )
2017	Truman Scholarship	\$30,000
2017	Grand Strategy Research Grant, Yale University	\$4,000
2016	John D. Heinz Fellowship, Yale University	\$14,000
2015	Nathan Hale Scholarship, Yale University <i>A special distinction that reflects the university's esteem for past and future achievements</i>	\$55,000
2014	The President's Volunteer Service Award, Barack Obama's Council on Service and Civic Participation	
2013	Appointment to the U.S. Military Academy at West Point <i>Nominated by Senator Sherrod Brown and Congressman Steve LaTourette</i>	( <i>declined</i> )

## JOURNAL PUBLICATIONS

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- Under Review [Getting Aligned on Representational Alignment](#)  
Ilia Sucholutsky\*, Lukas Muttenthaler\*, Adrian Weller, **Andi Peng**, more authors.
- Under Review [Open Problems and Fundamental Limitations of Reinforcement Learning from Human Feedback](#)  
Stephen Casper\*, Xander Davies\*, ..., **Andi Peng**, more authors.
- Nature* [Make Greenhouse-Gas Accounting Reliable—Build Interoperable Systems](#)  
Amy Luers, Leehi Yona, ..., **Andi Peng**, Christian Stoll, Marian Van Pelt, Ross Virginia, Lucas Joppa.  
*Nature* 607.7920, 2022

## CONFERENCE PUBLICATIONS

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\* equal contribution

- Under Review Preference-Conditioned Language-Guided Abstraction  
**Andi Peng**, Andreea Bobu, Belinda Li, Theodore Summers, Ilia Sucholutsky, Thomas Griffiths, Julie Shah
- Under Review Learning with Language-Guided State Abstractions  
**Andi Peng**, Ilia Sucholutsky\*, Belinda Li\*, Theodore Summers, Thomas Griffiths, Jacob Andreas\*, Julie Shah\*  
*Workshop on Social Intelligence in Humans and Robots*, RSS 2023 (oral)
- Under Review Aligning Human and Robot Representations  
Andreea Bobu\*, **Andi Peng**\*, Pulkit Agrawal, Julie Shah, Anca Dragan.  
*Workshop on Collaborative Robots and Work of the Future*, ICRA 2022  
*Workshop on Social Intelligence in Humans and Robots*, RSS 2022  
*Workshop on ML Safety*, NeurIPS 2022
- NeurIPS 2023 [Human-Guided Complexity-Controlled Abstractions](#)  
**Andi Peng**\*, Mycal Tucker\*, Eoin Kenny, Noga Zaslavsky, Pulkit Agrawal, Julie Shah.  
*Advances in Neural Information Processing Systems* (NeurIPS), 2023
- ICML 2023 [Diagnosis, Feedback, Adaptation: A Human-in-the-Loop Framework for Test-Time Policy Adaptation](#)  
**Andi Peng**, Aviv Netanyahu, Mark Ho, Tianmin Shu, Andreea Bobu, Julie Shah, Pulkit Agrawal.  
Proceedings of the *International Conference on Machine Learning* (ICML), 2023  
*Workshop on Human in the Loop Learning*, NeurIPS 2022  
Press: [MIT News](#) (front page featured story), EE Times, ASME
- AAAI 2022 [Investigations of Performance and Bias in Human-AI Teamwork in Hiring](#)  
(oral, top 4%) **Andi Peng**, Besmira Nushi, Kori Inkpen, Emre Kiciman, Ece Kamar.  
Proceedings of the *AAAI Conference on Artificial Intelligence* (AAAI), 2022  
*Workshop on Trust and Reliance in Human-AI Teams*, CHI 2022 (oral)
- AAAI 2020 [Human-Machine Collaboration for Fast Land-Cover Mapping](#)  
(oral, top 3%) Caleb Robinson, Anthony Ortiz, Kolya Malkin, Blake Elias, **Andi Peng**, Dan Morris, Bistra Dilkina, Nebojsa Jojic.  
Proceedings of the *AAAI Conference on Artificial Intelligence* (AAAI), 2020  
*Workshop on Climate Science and Adaptation*, ICLR 2020  
*Workshop on Tackling Climate Change with Machine Learning*, NeurIPS 2019
- AIES 2020 [The Perils of Objectivity: Towards a Normative Framework for Fair Judicial Decision-Making](#)  
(spotlight) **Andi Peng**, Malina Simard-Halm.  
Proceedings of the *AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society* (AIES), 2020
- HCOMP 2019 [What You See is What You Get? The Impact of Representation Criteria on Human Bias in Hiring](#)  
**Andi Peng**, Besmira Nushi, Emre Kiciman, Kori Inkpen, Siddharth Suri, Kori Inkpen, Ece Kamar.  
Proceedings of the *AAAI Conference on Human Computation and Crowdsourcing* (HCOMP), 2019
- SciTech 2017 [Conceptual Feasibility Study of the Hyperloop Vehicle for Next-Generation Transport](#)  
Kenneth Decker, Jeffrey Chin, **Andi Peng**, Colin Summers, Golda Nguyen, Andrew Oberlander, Gazi Sakib, Nariman Sharifrazi, Christopher Heath, Justin Gray, Robert Falck.  
Proceedings of the *AIAA SciTech Forum and Exposition* (SciTech), 2017  
Archived as NASA Technical Report

## WORKSHOP PUBLICATIONS

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- ICLR 2022 [Strengthening Subcommunities: Towards Sustainable Growth in AI Research](#)  
**Andi Peng**, Jessica Zosa Forde, Yonadav Shavit, Jonathan Frankle.  
*Workshop on ML Evaluation Standards*, ICLR 2022
- CHI 2020 [On the Nature of Bias Percolation: Assessing Multiaxial Collaboration in Human-AI Systems](#)  
**Andi Peng**, Besmira Nushi, Kori Inkpen, Emre Kiciman, Ece Kamar.  
*Workshop on Human-Centered Approaches to Fair and Responsible AI*, CHI 2020 (oral)

## POLICY WORK

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- P4. Led and evaluated grant on [Improving the ML Publishing Process](#).  
**Schmidt Futures**. ICLR 2022 ML Evaluation Standards Workshop.  
Apr 2022
- P3. [Report on Algorithmic Risk Assessment Tools in the U.S. Criminal Justice System](#)  
**The Partnership on AI**. Working Group on Fairness, Transparency, and Accountability.  
Apr 2019
- P2. [National Strategic Overview for Quantum Information Science](#)  
**The White House**. Office of Science and Technology Policy.  
Sep 2018
- P1. [Nigeria: Tracking and Promoting Good Governance](#)  
**United States Institute of Peace**. Through the Yale Jackson School of Global Affairs.  
Dec 2016

## INDUSTRY EXPERIENCE

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2023 -	(Part-time) Special Government Employee (SGE), <b>Defense Innovation Unit (DIU)</b>	Washington, DC
2021 - 2022	(Part-time) Policy Analyst, <b>Schmidt Futures</b>	New York, NY
2019 - 2020	Applied Scientist II, <b>Microsoft AI &amp; Research</b>	Redmond, WA
Summer 2017	Security Engineering Intern, <b>Facebook eCrime Team</b> <i>Created ML threat modeling to aid federal investigators. Collaborated with law enforcement on counter-terrorism, sex trafficking, and state-sponsored information cases.</i>	Menlo Park, CA
2014 - 2015	Product Manager, <b>IT Central Station</b>	Tel Aviv, Israel

## INVITED TALKS

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2023	CMU HRI Reading Group	Virtual
2023	<a href="#">Aon AI Fireside Chat</a>	Chicago, IL
2023	<a href="#">Yale for Humanity: AI, Ethics, and Society: Utilizing Technology for Good</a>	Chicago, IL
2022	<a href="#">FAccT SEDL Workshop</a>	Seoul, South Korea
2022	<a href="#">Yale Cyber Leadership Forum</a>	New Haven, CT
2021	MIT GW6 Research Summit	Cambridge, MA
2021	Facebook AI Research (FAIR) Robotics Seminar	Pittsburgh, PA
2020	Microsoft Research Adaptive Systems and Interaction Group	Virtual
2019	Microsoft AI&R Diversity, Inclusion and Belonging Day	Redmond, WA
2019	Microsoft AI for Good Research Group	Redmond, WA
2018	Microsoft Research AI Seminar	Redmond, WA
2016	NASA Aeronautics Research Mission Directorate	Glenn, OH
2014	Hubei University School of International Studies	Enshi, China

## WORKSHOP ORGANIZATION

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NeurIPS 2023	Workshop on <a href="#">Goal-Conditioned Reinforcement Learning</a>	New Orleans, LA
ICML 2023	Workshop on <a href="#">Learning from Implicit Human Feedback</a>	Honolulu, HI
CoRL 2022	Workshop on <a href="#">Aligning Robot Representations with Humans</a>	Auckland, New Zealand

## TEACHING

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2022-2024	<b>Yale Jackson School of Global Affairs</b> <a href="#">GLBL 6610: Artificial Intelligence, Emerging Technologies, and National Power</a>	Guest Lecturer (8x)
IAP 2021	<b>MIT Electrical Engineering and Computer Science</b> <a href="#">6.S090: Deep Learning for Control</a>	Co-Head T.A.
Fall 2017	<b>Yale Computer Science</b> <a href="#">CPSC 100 (CS50): Introduction to Computer Science</a>	T.A.
Spring 2017	CPSC 223: Data Structures and Programming Techniques	T.A.
Spring 2016	CPSC 202: Mathematical Tools for Computer Science	T.A.
Fall 2015, 2016	<a href="#">CPSC 100 (CS50): Introduction to Computer Science</a> <i>First undergraduate head T.A. for the largest engineering course in university history (managed course staff of 62). Had weekly teaching sections professionally filmed and produced for streaming.</i>	Head T.A.
Spring 2015	<b>Yale Astrophysics</b> ASTR 343: Gravity, Astrophysics, and Cosmology	T.A.

## PROFESSIONAL SERVICE

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### University Service

Student Advisory Group (AI+D), MIT EECS Faculty Search	2023
Board of Advisors, Yale Jackson School of Global Affairs	2020 - 2023

### Department Service

Graduate Visit Days Event Host, MIT EECS	2021 -
Executive Board, Yale Psi Chi Honor Society	2017 - 2018
Student Advisory Board, Yale Jackson Institute for Global Affairs	2016 - 2018
Student Advisory Board, Yale Brady-Johnson Program in Grand Strategy	2017 - 2018

### Outreach

Yale FLOAT (Women and Minorities in CS)	2016 - 2018
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### Leadership

Peer Liaison, Yale Asian-American Cultural Center	2017 - 2018
<i>Sole upperclassman peer mentor in Berkeley College (one of 14 residential colleges at Yale).</i>	
Captain, Yale Women's Club Soccer	2015 - 2016
Deputy ED, Teaching Peace Initiative	2013 - 2015
<i>Helped run a national student-run 501(c)(3) nonprofit for teaching peace-curriculum in schools.</i>	

## REVIEWING

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### Program Committee

AAAI Conference on Artificial Intelligence (AAAI)	2023 - 2024
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### Reviewing

Journal of Machine Learning Research (JMLR)	2023
Conference on Neural Information Processing Systems (NeurIPS)	2022
Robotics: Science and Systems (RSS)	2022 - 2023
IEEE International Conference on Robotics and Automation (ICRA)	2022
International Conference on Learning Representations (ICLR)	2022
AAAI Conference on Artificial Intelligence (AAAI)	2021 - 2022
ACM Conference on Human Factors in Computing Systems (CHI)	2020 - 2024
AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES)	2020

## RESEARCH MENTORSHIP

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Fall 2023    [Weihua Du](#) (Undergraduate at Tsinghua University)  
*Research on collaborative agents.*

Summer-Fall 2023    Jiaming Shan (Undergraduate at MIT-IBM Watson AI Lab)  
*Research on collaborative agents.*

Fall 2021    [Jerry Mao](#) (Undergraduate at MIT)  
*Research on DARPA Machine Common Sense Project.*

## TECHNICAL SKILLS

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Languages	Python, Java, C/C++, R, JavaScript, $\LaTeX$
Software	PyTorch, TensorFlow, Gym, OpenCV, Stata

## OTHER INTERESTS

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Running team member of the Boston Athletic Association (BAA). Annual participant at the Boston Marathon and USA Track and Field running circuit. Ex-college soccer player.

## LANGUAGES (HUMAN)

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English	Native
Mandarin	Native
French	Conversational