

# ANDI PENG

Microsoft AI & Research  
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## EDUCATION

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<b>Massachusetts Institute of Technology</b> Ph.D. Electrical Engineering and Computer Science Computer Science and Artificial Intelligence Laboratory (CSAIL)	Fall 2020 - Cambridge, MA
<b>Yale University, <i>cum laude</i></b> B.S. Cognitive Science Thesis: An Integrated Machine Learning Approach to Studying Terrorism	2013 - 2018 New Haven, CT
<b>Yale University, <i>cum laude</i></b> B.A. Global Affairs, <i>with distinction</i> Capstone: Early Detection of Boko Haram Attacks in Nigeria	2013 - 2018 New Haven, CT

## AFFILIATIONS

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<b>Microsoft Research</b> Adaptive Systems and Interaction Group	Sep 2018 - Present Redmond, WA
<b>Yale University</b> Jackson Institute for Global Affairs Social Robotics Lab Brady-Johnson Program in Grand Strategy	Aug 2013 - Present New Haven, CT
<b>White House Office of Science and Technology Policy (OSTP)</b> <b>National Institute for Standards and Technology (NIST)</b> Joint Quantum Institute	Jan - Sep 2018 Washington, DC
<b>National Aeronautics and Space Administration (NASA)</b> Glenn Research Center	May 2016 - Feb 2017 Cleveland, OH

## SELECTED FELLOWSHIPS, HONORS, AND AWARDS

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2018	Fox International Fellowship, University of Cambridge	\$30,000 ( <i>declined</i> )
2017	Truman Scholarship	\$30,000
2017	Douglas A. Beck Prize, Yale University To an outstanding student for "high academic achievement, leadership potential, personal integrity, and commitment to public service"	
2016	Multidisciplinary Aeronautics Research Team Initiative (MARTI), NASA	\$10,000
2016	John D. Heinz Fellowship, Yale University	\$14,000
2015	Nathan Hale Scholarship, Yale University "A special distinction that reflects the university's esteem for past and future achievements"	\$55,000
2014	The President's Volunteer Service Award, Obama's Council on Service and Civic Participation	
2013	National Merit Scholarship	\$2,500
2013	Appointment to the United States Military Academy at West Point Nominated by Senator Sherrod Brown and Congressman Steve LaTourette	( <i>declined</i> )

## REFEREED CONFERENCE PUBLICATIONS

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- C4. [Human-Machine Collaboration for Fast Land-Cover Mapping](#).  
Caleb Robinson, Anthony Ortiz, Kolya Malkin, Blake Elias, **Andi Peng**, Dan Morris, Bistra Dilkina, and Nebojsa Jojic.  
*Proceedings of the 34th AAAI Conference on Artificial Intelligence* (AAAI 2020).  
[Oral, 20.6% Acceptance Rate]
- C3. [The Perils of Objectivity: Towards a Normative Framework for Fair Judicial Decision-Making](#).  
**Andi Peng** and Malina Simard-Halm.  
*Proceedings of the 3rd AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society* (AIES 2020).  
[Spotlight, 34.1% Acceptance Rate]
- C2. [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, and Ece Kamar.  
*Proceedings of the 7th AAAI Conference on Human Computation and Crowdsourcing* (HCOMP 2019).  
[25.0% Acceptance Rate]
- C1. [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, and Robert Falck.  
*Proceedings of the 55th AIAA Aerospace Sciences Meeting* (SciTech 2017).

## JOURNAL PUBLICATIONS

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- J1. How different AI models effect accuracy and bias of human decision-making.  
**Andi Peng**, Besmira Nushi, Kori Inkpen, Emre Kiciman, and Ece Kamar.  
*In preparation*.

## REFEREED WORKSHOP PUBLICATIONS

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- W2. On the Nature of Bias Percolation: Assessing Multi-axial Collaboration in Human-AI Systems.  
**Andi Peng**, Besmira Nushi, Kori Inkpen, Emre Kiciman, and Ece Kamar.  
*Under review*.
- W1. [Human-machine collaboration for fast land-cover mapping](#).  
Caleb Robinson, Anthony Ortiz, Kolya Malkin, Blake Elias, **Andi Peng**, Dan Morris, Bistra Dilkina, and Nebojsa Jojic.  
*The 33rd Conference on Neural Information Processing Systems* (NeurIPS 2019) Workshop on *Tackling Climate Change with Machine Learning*.

## POLICY CONTRIBUTIONS

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- Contributions made to institutional policy work.
- 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.  
2019.
- P2. [National Strategic Overview for Quantum Information Science](#).  
**The White House**. Office of Science and Technology Policy.  
2018.
- P1. [Nigeria: Tracking and Promoting Good Governance](#).  
**United States Institute of Peace**. Through the Yale Jackson Institute for Global Affairs.  
2016.

## WORK AND RESEARCH EXPERIENCE

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<b>Microsoft AI &amp; Research</b> <i>Applied Scientist II</i>	Sep 2019 - Present Redmond, WA
<ul style="list-style-type: none"><li>• AI Strategy and Architecture Team</li></ul>	
<b>Microsoft Research</b> <i>AI Resident</i>	Sep 2018 - Sep 2019 Redmond, WA
<ul style="list-style-type: none"><li>• Collaborators: Ece Kamar, Besmira Nushi, Emre Kiciman, Siddharth Suri, Kori Inkpen, and Nebojsa Jojic.</li></ul>	
<b>White House Office of Science and Technology Policy (OSTP)</b> <i>Policy Intern</i>	Jan 2018 - May 2018 Washington, DC
<ul style="list-style-type: none"><li>• Under the U.S. CTO, contributed to national quantum and AI strategy.</li></ul>	
<b>National Institute of Standards and Technology (NIST)</b> <i>Research Associate</i>	Summer 2018 Washington, DC
<ul style="list-style-type: none"><li>• Helped stand up the <a href="#">Quantum Economic Development Consortium</a>.</li></ul>	
<b>Yale Computer Science Department</b> <i>Undergraduate Researcher, advised by Joan Feigenbaum</i>	Spring 2017 New Haven, CT
<ul style="list-style-type: none"><li>• Deployment of risk assessment tools in criminology decision-making.</li></ul>	
<b>Facebook eCrime Team</b> <i>Security Engineering Intern</i>	Summer 2017 Menlo Park, CA
<ul style="list-style-type: none"><li>• Threat modeling to aid investigators. Collaborated with law enforcement on counter-terrorism, sex trafficking, and state-sponsored information cases.</li></ul>	
<b>Yale Computer Science Department</b> <i>Undergraduate Researcher, advised by Brian Scassellati</i>	Spring 2017 New Haven, CT
<ul style="list-style-type: none"><li>• Reinforcement learning for multi-agent Sphero control and navigation.</li></ul>	
<b>U.S. Institute of Peace</b> <i>Global Affairs Capstone, advised by William Casey King</i>	Fall 2016 New Haven, CT
<ul style="list-style-type: none"><li>• Early-detection of Boko Haram events in Nigeria with sentiment analysis.</li></ul>	
<b>NASA Glenn Research Center</b> <i>MARTI Researcher</i>	Summer 2016 Cleveland, OH
<ul style="list-style-type: none"><li>• Modeling and feasibility study of the Hyperloop transportation system.</li></ul>	
<b>IT Central Station</b> <i>Product Manager</i>	Aug 2014 - Aug 2015 Tel Aviv, Israel
<ul style="list-style-type: none"><li>• Designed BI workflows and new site features.</li></ul>	

## TALKS AND PRESENTATIONS

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C3. <i>The Perils of Objectivity: Towards a Normative Framework for Fair Judicial Decision-Making</i>	Feb 2020
Spotlight session, AIES 2020. New York, NY.	
C2. <i>The Impact of Representation Criteria on Human Bias in Hiring</i>	Oct 2019
Conference session, HCOMP 2019: "Recruiting the Crowd". Skamania Lodge, WA.	
C2. <i>Do We Want Male Nannies? Decomposing Human and Algorithmic Biases in Hiring</i>	Jun 2019
Invited talk, Microsoft AI&R Diversity, Inclusion and Belonging Day. Redmond, WA.	

- C4. *Human-AI Collaboration for Social Good* May 2019  
Presentation, Microsoft AI for Good. Redmond, WA.
- P2. *Federal Science Policy: Lessons from the White House* Sep 2018  
Presentation, Microsoft Research AI residency program. Redmond, WA.
- C1. *Conceptual Sizing and Feasibility Study for a Magnetic Plane Concept* Jan 2017  
Conference session, SciTech 2017: "Hyperloop and Future High-Speed Transportation Concept". Grapevine, TX.
- C1. *Conceptual Feasibility Study of the Hyperloop for Next-Generation Transport* Aug 2016  
Presentation to NASA Administration (Aeronautics Research Mission Directorate). Glenn, OH.
- U.S.-China Relations and the Role of International Development* Jun 2014  
Invited talk, Hubei University School of International Studies. Enshi, China.

## TEACHING

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- Yale Computer Science Department** Fall 2017  
*Teaching Assistant*
- CPSC 100 (CS50): Introduction to Computer Science
- Yale Computer Science Department** Spring 2017  
*Teaching Assistant*
- CPSC 223: Data Structures and Programming Techniques
- Yale Computer Science Department** Fall 2015 - 2016  
*Head Teaching Assistant*
- CPSC 100 (CS50): Introduction to Computer Science. First undergraduate head TA in university history for the largest engineering course in university history. Managed a course staff of 62 for 450+ students. Had weekly teaching sections professionally filmed and produced for streaming on the course website.
- Yale Astrophysics Department** Spring 2016  
*Peer Tutor*
- ASTR 343: Gravity, Astrophysics, and Cosmology
- Yale Computer Science Department** Spring 2016  
*Peer Tutor*
- CPSC 202: Mathematical Tools for Computer Science

## PROFESSIONAL SERVICE

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| <b>Reviewer</b>               | CHI 2020   |
| <b>Student Advisory Board</b> | Yale Psi Chi Honor Society, 2017 - 2018<br>Yale Jackson Institute for Global Affairs, 2016 - 2018<br>Yale Brady-Johnson Program in Grand Strategy, 2017 - 2018 |
| <b>Mentor</b>                 | Yale FLOAT (Women and Minorities in CS), 2016 - 2018   |

## OTHER SERVICE

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- Yale Asian-American Cultural Center** 2016 - 2017  
*Peer Liaison*

- The sole upperclassman peer mentor in Berkeley College (one of 14 residential colleges at Yale). Organized diversity initiatives, programming, and events across the university at large.

**Yale Women's Club Soccer**

2015 - 2017

*Captain*

- Managed team tryouts, practices, and social events.

**Teaching Peace Initiative**

2013 - 2016

*Deputy Executive Director*

- Helped lead a student-run 501(c)(3) for teaching peace-curriculum in schools. Operational in 21 states and 3 continents at time of transition.

**LANGUAGES (HUMAN)**

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English	Native
Mandarin	Native
French	Conversational

**LOVELY PEOPLE WHO HAVE WRITTEN LETTERS FOR ME**

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1. **Dr. Ece Kamar**  
Principal Researcher  
Microsoft Research  
Redmond, WA  
eckamar@microsoft.com
2. **Dr. Jacob Taylor**  
Assistant Director for Quantum Information Science  
White House Office of Science and Technology Policy (OSTP)  
Washington, DC  
jacob.taylor@nist.gov
3. **Dr. Brian Scassellati**  
Professor of Computer Science, Cognitive Science, and Mechanical Engineering  
Yale University  
New Haven, CT  
brian.scassellati@yale.edu