ANDI PENG

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EDUCATION

Massachusetts Institute of Technology   Fall 2020 -
Ph.D. Electrical Engineering and Computer Science   Cambridge, MA
Computer Science and Artificial Intelligence Laboratory (CSAIL)

Yale University, *cum laude*, GPA: 3.9/4.0   2013 - 2018
B.S. Cognitive Science   New Haven, CT
Thesis: An Integrated Machine Learning Approach to Studying Terrorism

B.A. Global Affairs, *with distinction*
Capstone: Early Detection of Boko Haram Attacks in Nigeria

AFFILIATIONS

Microsoft Research   Sep 2018 - Present
Adaptive Systems and Interaction Group   Redmond, WA

Yale University   Aug 2013 - Present
Jackson Institute for Global Affairs   New Haven, CT
Social Robotics Lab
Brady-Johnson Program in Grand Strategy

White House Office of Science and Technology Policy (OSTP)   Jan - Sep 2018
National Institute for Standards and Technology (NIST)   Washington, DC
Joint Quantum Institute

National Aeronautics and Space Administration (NASA)   May 2016 - Feb 2017
Glenn Research Center   Cleveland, OH

SELECTED FELLOWSHIPS, HONORS, AND AWARDS

2020	NSF Graduate Research Fellowship	$138,000
2018	Fox International Fellowship, University of Cambridge	$30,000 *(declined)*
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	$55,000
	"A special distinction that reflects the university's esteem for past and future achievements"	
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   *(declined)*
        Nominated by Senator Sherrod Brown and Congressman Steve LaTourette

REFEREED CONFERENCE PUBLICATIONS

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

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

W2.   On the Nature of Bias Percolation: Assessing Multiaxial Collaboration in Human-AI Systems.
       Andi Peng, Besmira Nushi, Kori Inkpen, Emre Kiciman, and Ece Kamar.
       The *38th ACM Conference on Human Factors in Computing Systems* (CHI 2020) Workshop on *Human-
       Centered Approaches to Fair and Responsible AI*.

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

       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

Microsoft AI & Research   Sep 2019 - Present
Applied Scientist II   Redmond, WA
- AI Strategy and Architecture Team

Microsoft Research   Sep 2018 - Sep 2019
AI Resident   Redmond, WA
- Collaborators: Ece Kamar, Besmira Nushi, Emre Kiciman, Siddharth Suri, Kori Inkpen, and Nebojsa Jojic.

White House Office of Science and Technology Policy (OSTP)   Jan 2018 - May 2018
Policy Intern   Washington, DC
- Under the U.S. CTO, contributed to national quantum and AI strategy.

National Institute of Standards and Technology (NIST)   Summer 2018
Research Associate   Washington, DC
- Helped stand up the Quantum Economic Development Consortium.

Yale Computer Science Department   Spring 2017
Undergraduate Researcher, advised by Joan Feigenbaum   New Haven, CT
- Deployment of risk assessment tools in criminology decision-making.

Facebook eCrime Team   Summer 2017
Security Engineering Intern   Menlo Park, CA
- Threat modeling to aid investigators. Collaborated with law enforcement on counter-terrorism, sex trafficking, and state-sponsored information cases.

Yale Computer Science Department   Spring 2017
Undergraduate Researcher, advised by Brian Scassellati   New Haven, CT
- Reinforcement learning for multi-agent Sphero control and navigation.

U.S. Institute of Peace   Fall 2016
Global Affairs Capstone, advised by William Casey King   New Haven, CT
- Early-detection of Boko Haram events in Nigeria with sentiment analysis.

NASA Glenn Research Center   Summer 2016
MARTI Researcher   Cleveland, OH
- Modeling and feasibility study of the Hyperloop transportation system.

IT Central Station   Aug 2014 - Aug 2015
Product Manager   Tel Aviv, Israel
- Designed BI workflows and new site features.

TALKS AND PRESENTATIONS

C3. *The Perils of Objectivity: Towards a Normative Framework for Fair Judicial Decision-Making*   Feb 2020
Spotlight session, AIES 2020. New York, NY.

C2. *The Impact of Representation Criteria on Human Bias in Hiring*   Oct 2019
Conference session, HCOMP 2019: "Recruiting the Crowd". Skamania Lodge, WA.

C2.	*Do We Want Male Nannies? Decomposing Human and Algorithmic Biases in Hiring* Invited talk, Microsoft AI&R Diversity, Inclusion and Belonging Day. Redmond, WA.	Jun 2019
C4.	*Human-AI Collaboration for Social Good* Presentation, Microsoft AI for Good. Redmond, WA.	May 2019
P2.	*Federal Science Policy: Lessons from the White House* Presentation, Microsoft Research AI residency program. Redmond, WA.	Sep 2018
C1.	*Conceptual Sizing and Feasibility Study for a Magnetic Plane Concept* Conference session, SciTech 2017: "Hyperloop and Future High-Speed Transportation Concept". Grapevine, TX.	Jan 2017
C1.	*Conceptual Feasibility Study of the Hyperloop for Next-Generation Transport* Presentation to NASA Administration (Aeronautics Research Mission Directorate). Glenn, OH.	Aug 2016
	U.S.-China Relations and the Role of International Development Invited talk, Hubei University School of International Studies. Enshi, China.	Jun 2014

TEACHING

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

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

OTHER SERVICE

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)

English	Native
Mandarin	Native
French	Conversational

LOVELY PEOPLE WHO HAVE WRITTEN LETTERS FOR ME

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