Sandy H. Huang

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Education

Ph.D., Computer Science, University of California, Berkeley **2013–2019**
Advisors: Anca Dragan and Pieter Abbeel | GPA 3.96
Thesis: *Optimizing for Robot Transparency*

B.S. with Honors, Computer Science, Stanford University **2009–2013**
Thesis: *Computational Models for Predicting Diagnoses of Depression* | GPA 3.97

Research and Industry Experience

DeepMind, Research Scientist **2019–present**

InterACT Lab, UC Berkeley, Graduate RA (PI: Anca Dragan) **2015–2019**

Robot Learning Lab, UC Berkeley, Graduate RA (PI: Pieter Abbeel) **2013–2019**

DeepMind, Ph.D. Intern with Raia Hadsell **2018**

Shah Lab, Stanford, Undergraduate RA (PI: Nigam Shah) **2012–2013**

SNAP, Stanford, Undergraduate RA (PI: Jure Leskovec) **2012**

Google, Software Engineering Intern, Maps Team | Display Ads Team **2011|2013**

Honors and Awards

Rising Stars in EECS **2018**

Best Paper Finalist, Human-Robot Interaction (HRI) **2018**
"Expressing robot incapability"

Chair's Special Award, UC Berkeley EECS Department **2015**
For services to the department during student admissions and recruitment

National Science Foundation Graduate Research Fellowship **2014**

National Defense Science and Engineering Graduate Fellowship, declined **2014**

Berkeley Chancellor's Fellowship **2013**
Offered to top 4% of admitted doctoral students

Stanford Terman Award **2013**
Offered to graduating students with top 5% GPA in School of Engineering

Google Anita Borg Scholar **2012**

Other Scholarships
Google Engineering Intern (2011), Microsoft Women's (2010, 2011), Raytheon MathMovesU (2009, 2010)

Presidential Scholar, National Merit Scholar **2009**

Teaching Experience

Teaching Assistant	UC Berkeley
Fall 2015	CS 287 Advanced Robotics
Spring 2015	CS 188 Introduction to Artificial Intelligence

Teaching Assistant	Stanford
Spring 2013	CS 143 Compilers
Winter 2013	CS 106B Programming Abstractions
Fall 2011	CS 106A Programming Methodology

Pre-Prints

Sandy H. Huang*, Martina Zambelli*, Yuval Tassa, Jackie Kay, Murilo F. Martins, Patrick M. Pilarski, and Raia Hadsell. "Learning gentle object manipulation with curiosity-driven deep reinforcement learning". arXiv preprint arXiv:1903.08542, 2019.

Sandy H. Huang, Nicolas Papernot, Ian Goodfellow, Yan Duan, and Pieter Abbeel. "Adversarial attacks on neural network policies". arXiv preprint arXiv:1702.02284, 2017.

Peer-Reviewed Conference & Journal Papers

[11] **Sandy H. Huang***, Isabella Huang*, Ravi Pandya*, and Anca D. Dragan. "Nonverbal robot feedback for human teachers". In: *Proceedings of the Third Conference on Robot Learning (CoRL)*. 2019.

[10] **Sandy H. Huang**, David Held, Pieter Abbeel, and Anca D. Dragan. "Enabling robots to communicate their objectives". In: *Autonomous Robots (AURO)* 43.2 (2019), pp. 309–326.

[9] Ravi Pandya, **Sandy H. Huang**, Dylan Hadfield-Menell, and Anca D. Dragan. "Human-AI learning performance in multi-armed bandits". In: *Proceedings of the AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES)*. 2019.

[8] **Sandy H. Huang**, Kush Bhatia, Pieter Abbeel, and Anca D. Dragan. "Establishing appropriate trust via critical states". In: *Proceedings of the Thirty-First Annual IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2018.

[7] Minae Kwon, **Sandy H. Huang**, and Anca D. Dragan. "Expressing robot incapability". In: *Proceedings of the Thirteenth Annual ACM/IEEE International Conference on Human Robot Interaction (HRI)*. 2018. **(best paper finalist)**.

[6] **Sandy H. Huang**, David Held, Pieter Abbeel, and Anca D. Dragan. "Enabling robots to communicate their objectives". In: *Proceedings of the Thirteenth Annual Robotics: Science and Systems (RSS)*. 2017. **(invited to special issue)**.

[5] **Sandy H. Huang**, Jia Pan, George Mulcaire, and Pieter Abbeel. "Leveraging appearance priors in non-rigid registration, with application to manipulation of deformable objects". In: *Proceedings of the Twenty-Eighth IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2015.

[4] Dylan Hadfield-Menell, Alex X. Lee, Chelsea Finn, Eric Tzeng, **Sandy H. Huang**, and Pieter Abbeel. "Beyond lowest-warping cost action selection in trajectory transfer". In: *Proceedings of the IEEE International Conference on Robotics and Automation (ICRA)*. 2015.

[3] Alex X. Lee, **Sandy H. Huang**, Dylan Hadfield-Menell, Eric Tzeng, and Pieter Abbeel. "Unifying scene registration and trajectory optimization for learning from demonstrations with application to manipulation of deformable objects". In: *Proceedings of the Twenty-Seventh IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. 2014.

[2] **Sandy H. Huang**, Paea LePendu, Srinivasan V. Iyer, Ming Tai-Seale, David Carrell, and Nigam H. Shah. "Toward personalizing treatment for depression: predicting diagnosis and severity". In: *Journal of the American Medical Informatics Association (JAMIA)* 21.6 (2014), pp. 1069–1075.

[1] Caroline Suen*, **Sandy H. Huang***, Chantat Eksombatchai*, Rok Sosic, and Jure Leskovec. "NIFTY: A system for large scale information flow tracking and clustering." In: *Proceedings of the Twenty-Second International World Wide Web Conference (WWW)*. 2013.

Peer-Reviewed Workshop Papers (Selected)

Sandy H. Huang, Kush Bhatia, Pieter Abbeel, and Anca D. Dragan. "Establishing (appropriate) trust via critical states". *HRI Workshop on Explainable Robotic Systems*. 2018.

Sandy H. Huang, Nicolas Papernot, Ian Goodfellow, Yan Duan, and Pieter Abbeel. "Adversarial attacks on neural network policies". *ICLR Workshop*. 2017.

Sandy H. Huang, David Held, Pieter Abbeel, and Anca D. Dragan. "Enabling robots to communicate reward functions". *NIPS Workshop on Future of Interactive Learning Machines*. 2016. Oral.

Research Mentoring

Ravi Pandya, Sherman Luo
Isabella Huang (Ph.D. at Berkeley)
Minae Kwon (now Ph.D. at Stanford)

Outreach and Service

Women in Computer Science and Electrical Engineering, Social Chair **2015–2016**
Held events with a total of several hundred attendees, to strengthen community of female EECS PhDs

Robot Learning Lab, Outreach Coordinator **2013–2015**

Tau Beta Pi, Service Chair **2012–2013**
Led volunteers in teaching hands-on engineering lessons to fourth grade students

Citizen Schools, Citizen Teacher **2011, 2013**
Designed curriculum and taught Lego Mindstorm robotics and piano to middle school students

Society of Women Engineers (SWE), Middle School Outreach Officer **2010–2011**

Professional Activities

Paper reviewing
ACM/IEEE International Conference on Human Robot Interaction (HRI) 2017, 2018, 2019, 2020
IEEE International Conference on Robotics and Automation (ICRA) 2016, 2018, 2019
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) 2017, 2019
Conference on Robot Learning (CoRL) 2017, 2018
Robotics: Science and Systems (RSS) 2019
Conference on Neural Information Processing Systems (NeurIPS) 2019
International Conference on Machine Learning (ICML) 2019
International Conference on Learning Representations (ICLR) 2019, 2020