Wesley Hanwen Deng

408-893-1312 hanwend@cs.cmu.edu

Research Interests

Human-centered Machine Learning; Human-AI Interaction; Algorithm Auditing; Crowdsourcing; Social Computing; Fairness, Accountability, and Transparency.

Education

Carnegie Mellon University, Pittsburgh, PA
Ph.D. in Human-Computer Interaction, School of Computer Science 2021 - now
Advisors: Ken Holstein & Motahhare Eslami.

University of California, Berkeley, Berkeley, CA
B.A. in Computer Science; Certificate in New Media Study
Highest Distinction & EECS Research Honor 2017 - 2020
Research Advisors: Niloufar Salehi & Kimiko Ryokai.
Selected Coursework: Machine Learning, Deep Learning, Convex Optimization, Data Science(A+), Information System(A+), HCI Research.

Conference Publications ***Stringently Peer-reviewed***

[P7] **Wesley H. Deng**, Monica Chang, Nur Yildirim, Motahhare Eslami, Ken Holstein, Michael Madaio. (2023). Cross-functional Collaboration for AI Fairness in Industry Practice. *In Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23)*

[P6] **Wesley H. Deng**, Boyuan Bill Guo, Alicia DeVrio, Hong Shen, Motahhare Eslami, Ken Holstein. (2023). Understanding Practices, Challenges, and Opportunities for User-Engaged Algorithm Auditing in Industry Practice. *in Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI'23).*

[P5] **Wesley H. Deng**, Manish Nagireddy, Michelle Seng Ah Lee, Jatinder Singh, Zhiwei Steven Wu, Kenneth Holstein, Haiyi Zhu. (2022). Exploring How Machine Learning Practitioners (Try To) Use Fairness Toolkits. *In Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency (FAccT '22)*

[P4] Hong Shen, Leijie Wang, **Wesley H. Deng**, Ciell, Ronald Velgersdijk, Haiyi Zhu. (2022). The Model Card Authoring Toolkit: Towards Community-centered, Deliberation-driven AI Design. *In Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency (FAccT '22)*

[P3] Dan Liebling, Katherine Heller, Samantha Roberston, **Wesley H. Deng**. (2022). Opportunities for Human-centered Evaluation of Machine Translation Systems *In Proceedings of the 2022 North American Chapter of the Association for Computational Linguistics (NAACL '22)*

[P2] Hong Shen, **Wesley H. Deng**, Aditi Chattopadhyay, Steven Wu, Xu Wang, Haiyi Zhu. (2021). Value Cards: An Educational Toolkit for Teaching Social Impacts of Machine Learning through Deliberation. *In Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency (FAccT '21)*

[P1] Jon Gillick, **Wesley H. Deng**, Kimiko Ryokai, David Bamman. Robust Laughter Detection in Noisy Environments. (2021) *In Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP '21)*

Workshop Publications *Lightly Peer-reviewed*

[WP5] **Wesley H. Deng**, Motahhare Eslami, Kenneth Holstein. (2023) Towards "Anytime, Anywhere" Community Learning and Engagement around the Design of Public Sector AI. *Workshop on AI Literacy: Finding Common Threads between Education, Design, Policy, and Explainability; CHI 2023*

[WP4] **Wesley H. Deng**, Nikita Mehandru, Samantha Roberston, Niloufar Salehi. (2022) Beyond General Purpose Machine Translation: The Need for Context-specific Empirical Research to Design for Appropriate User Trust. *Workshop on Trust and Reliance in AI-Human Teams; CHI 2022*

[WP3] **Wesley H. Deng**, Manish Narigeddy, Zhiwei Steven Wu, Kenneth Holstein, Haiyi Zhu. (2021) Evaluating Fairness in Practice: Exploring How Machine Learning Practitioners Use Fairness Toolkits. *Human-Centered AI Workshop; NeurIPS 2021*

[WP2] Samantha Roberston, **Wesley H. Deng**, Timnit Gebru, Margaret Mitchell, Dan Liebling, Michal Lahav, Katherine Heller, Mark Diaz, Samy Bengio, Niloufar Salehi. (2021) Three Directions for the Design of Human-Centered Machine Translation. *1st HCI + NLP Workshop, NAACL 2021*

[WP1]Kimiko Ryokai, Julia Park, **Wesley H. Deng**. (2020) Personal laughter archives: reflection through visualization and interaction. *Adjunct Proceedings of the 2020 ACM International Conference on Ubiquitous Computing (UbiComp 2020)*

Research Experience

FATE, ***Microsoft Research*** Summer 2023
Research Intern
Research supervisors: Jenn Wortman Vaughan, Forough Poursabzi-Sangdeh , Solon Barocas
Research Topics: Responsible AI

4A Lab, ***Carnegie Mellon University*** Summer 2021 - now
Ph.D. Student
Research supervisors: Motahhare Eslami
Research Topics: Responsible AI ([P7], [P8]), Algorithm Auditing [P7]

CoALA Lab, ***Carnegie Mellon University*** Fall 2020 - now
Pre-Doctoral Research Assistant & Ph.D. Student
Research supervisors: Ken Holstein
Research Topics: Responsible AI ([WP3], [P5], [P7], [P8]), Algorithm Auditing ([P7])

Social AI Group, ***Carnegie Mellon University*** Fall 2020 - Fall 2021
Pre-Doctoral Research Assistant
Research supervisors: Haiyi Zhu and Steven Wu
Research Topics: Responsible AI ([P2], [P4], [P5]), ML Fairness ([WP3], [P5]) and Social Computing [P6]

To3 Group, ***University of California, Berkeley***
& **Google Ethical AI**, ***Google*** Fall 2019 - Fall 2020
Undergraduate Research Assistant
Research supervisors: Niloufar Salehi
Research Topics: Responsible AI for Machine Translation ([WP2], [WP4], [P3])

BioSENSE Lab, ***University of California, Berkeley*** Fall 2018 - Fall 2020
Undergraduate Research Assistant
Research supervisors: Kimiko Ryokai and David Bamman
Research Topics: Design [WP1] and Ubiquitous computing ([WP1], [P1])

Honor and Awards

CMU Graduate Student Travel Grant,

\$750, Carnegie Mellon University 2022

CERES (Connecting the EdTech Research EcoSystem) Fellowship
through Jacobs Foundation, Carnegie Mellon University 2021

Special Recognitions for Outstanding Reviews,
CSCW 2021

EECS Undergraduate Research Honor,
Electrical Engineering and Computer Science, UC Berkeley 2020

Highest Distinction, School of Letter and Science, UC Berkeley 2020

Dean's List, School of Letter and Science, UC Berkeley 2018, 2019, 2020

First Price for Chinese National Physics Olympiad (60/22,000) 2015

Invited Talk and Panelist

Understanding Practices, Challenges, and Opportunities for User-Engaged Algorithm Auditing in Industry Practice

Invited talk at Algorithmic Fairness and Opacity (AFOG) Group 10/2022

Exploring How ML Practitioners (Try To) Use Fairness Toolkits

Invited talk at IBM AIF360 developer team monthly meeting 07/2022

Invited talk at Fairlearn developer team meeting 03/2021

Other talks and panels

Invited panelist, "Flavor of HCI"
hosted by Carnegie Mellon University, User Experience Association 11/2022

Invited speaker, "Applying for Ph.D. programs in Human-Computer Interaction"
hosted by UC Berkeley, Chinese Student Association 07/2022

Invited panelist, Graduate School Application Panel,
hosted by Carnegie Mellon University, REU Summer Program in HCII 06/2022

Invited presenter, Design Innovation Lecture Series,
hosted by UC Berkeley, Jacobs Institute for Design Innovation 08/2022

Invited panelist, EECS Research Honor program panel,
hosted by UC Berkeley, EECS Honor program 03/2021

Invited presenter, Designing Emergent Technology,
hosted by UC Berkeley, Jacobs Institute for Design Innovation 12/2019

Selected Press

12/2022, **WIRED**, ChatGPT, Galactica, and the Progress Trap: When large language models fall short, the consequences can be serious. Why is it so hard to acknowledge that?

11/2021, **CMU HCII**, HCII Researchers To Study Improving Algorithm, Computer

Science Education as Part of CERES Network.

Academic Service

Program Committee
FAccT 2022, 2023
Empathy-centric Design at Scale Workshop, CHI 2022

Conference Reviewer
CHI 2021, 2022, 2023
CSCW 2021, 2022, 2023
FAccT 2021, 2022, 2023
ICASSP 2021
TEI 2023

Others

CMU HCII Ph.D. student Social Hour: Organizer	2021, 2022, 2023
CMU Responsible AI Initiate Ph.D. social Hour: Organizer	2022
CMU HCII Ph.D. student CHI practice talk: Organizer	2022
CMU Ph.D. Application Assistance for underrepresented applicants: Participants	2021
CMU HCII Ph.D. Junior-Senior Coffee chat: Co-organizer	2021

Research Mentorship

Howard Han, CMU, Master Student Research Assistant	Spring 2023 - Now
Yvvone Fang, CMU, Master Student Research Assistant	Spring 2023 - Now
Xiaofeng Yan, CMU, Master Student Research Assistant	Fall 2022 - Spring 2023
Jieyu Zhou, CMU, Master Student Research Assistant	Spring 2022 - Spring 2023
Shixian Xie, CMU, Master Student Research Assistant	Summer 2022 - Spring 2023
Bill Guo, CMU, Undergraduate HCI Research Assistant	Summer 2021 - Fall 2022
Anthony Pan, CMU, Undergraduate Design Project	Fall 2022
Christy Zo, CMU, Undergraduate Design Project	Fall 2022
Rebecca Jiang, CMU, Undergraduate HCI Independent Study	Summer 2022
Vivek Nadig, Valley Christian High School, High School student	Summer 2022
Andrew Sim, CMU, Master Student Independent Study	Spring 2022
Harnoor Dhingra, CMU, Master Student Independent Study	Spring 2022
Susan Huang, CMU, Undergraduate HCI Research Assistant	Fall 2021
Alice Tran, CMU, Undergraduate HCI Research Assistant	Fall 2021
Leijie Wang, Tsing-hua University, Undergraduate HCI Research Assistant Now UW CSE Ph.D.	Spring 2021

Teaching

Data Science, *Data 100, UC Berkeley*	Undergraduate TA; 2020
Probability Theory, *Statistics 134, UC Berkeley*	Group Tutor; 2019
Data Structure, *CS 61B, UC Berkeley*	Lab Assistant; 2019
Introduction of Computing, *CS 61A, UC Berkeley*	Lab Assistant; 2018
Physics for Engineers, *Physics 7A, UC Berkeley*	One-on-one Tutor; 2018

Skills

Languages: Python, R, HTML/CSS/JavaScript, C, Java, MATLAB, SQL, LaTeX.
Machine Learning: PyTorch, TensorFlow, NumPy, Pandas, Scikit-Learn, MapReduce, NLTK, PyData, SciPy.
Design: Figma, Miro, Photoshop, Illustrator, Visualization (D3.js/ggplot2/Seaborn).
Natural Languages: English, Chinese.