Wesley Hanwen Deng

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Research Interests

Responsible AI; Human-AI Interaction; Algorithm Auditing; Organizational Science; 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.

Conference Publications
Stringently Peer-reviewed

[P10] **Wesley H. Deng**, Solon Barocas, Jennifer Wortman Vaughan. (2024). Societal Impact Assessment: Supporting Industry Computing Researchers in Assessing the Potential Negative Societal Impact of Their Work. *In Submission*

[P9] Jordan Taylor, **Wesley H. Deng**, Ken Holstein, Sarah Fox, Haiyi Zhu. (2024). Unmaking Marginality. *In Submission*

[P8] Sara Kingsley, Jiayin Zhi, **Wesley H. Deng**, Jaimie Lee, Sizhe Zhang, Motahhare Eslami, Kenneth Holstein, Joson I. Hong, Tianshi Li, Hong Shen. (2024). Investigating What Factors Influence Users' Detection of Harmful Algorithmic Bias and Discrimination. *In Submission*

[P7] **Wesley H. Deng**, Nur Yildirim, Monica Chang, Motahhare Eslami, Ken Holstein, Michael Madaio. (2023). Investigating Practices and Opportunities for Cross-functional Collaboration around 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)*

Workshop Organized

[W03] Ziang Xiao, **Wesley H. Deng**, Michelle Lam, Motahhare Eslami, Juho Kim, Mina Lee, Q. Vera Liao. (2024) Human Centered Evaluation and Auditing of Large Language Models. *In Submission*

[W02] **Wesley H. Deng**, Michelle Lam, Alex Cabrera, Danaë Metaxa, Motahhare Eslami, Ken Holstein. (2023). Supporting User Engagement in Testing, Auditing, and Contesting AI. *Workshop at the ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW'23). ACM.*

[W01] **Wesley H. Deng**, Shivani Kapania, Ken Holstein, Motahhare Eslami. *Panelist:* Lauren Wilcox, Su Lin Blodgett, Danaë Metaxa, Nicholas Diakopoulos, Karrie Karahalios, Shubhanshu Mishra, Christo Wilson (2023). User Engagement in Algorithm Testing and Auditing: Exploring Opportunities and Tensions between Practitioners and End Users. *Critiquing and Rethinking Fairness, Accountability, and Transparency (CRAFT) session at the 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23)*

Research Experience

AllenNLP, **Allen Institute for AI** Fall 2023 - now
Research Assistant (Research Intern offer deferred due to Visa constraint)
Research supervisor: Jesse Dodge & Nicole DeCario
Research Topics: Responsible AI, Generative AI, Impact Assessment

FATE, ***Microsoft Research*** Summer 2023
Research Intern
Research supervisors: Jenn Wortman Vaughan & Solon Barocas
Research Topics: Responsible AI, Impact Assessment.

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

Ethics & Society Workshop Invited Participants
$500, Allen Institute for AI 2023

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,
Computer-Supported Cooperative Work and Social Computing (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

Supporting Responsible AI in Real-world Organizational Contexts: Current Practices, Challenges, and Opportunities in Industry Settings

Invited talk at Capital One, Data Science Team 07/2023

Invited talk at TU Delft, Faculty of Industrial Design Engineering 05/2023

Invited talk at TU Delft, Faculty of Electrical Engineering, Mathematics and Computer Science, Delft University of Technology 05/2023

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

Invited talk at University of California, Berkeley, Algorithmic Fairness and Opacity (AFOG) Group 10/2022

Exploring How ML Practitioners (Try To) Use Fairness Toolkits

Invited talk at PwC AI Governance Group 03/2022

Invited talk at Google PAIR 08/2022

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

07/2023, **Center for Advancing Safety of Machine Intelligence**, AI ethics debate at Chicago conference, precursor to CASMI's next workshop.

06/2023, **Queer in AI**, 3 things that AI ethics toolkits get wrong.

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, 2024
CSCW 2021, 2022, 2023, 2024
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
Now Columbia University CS Ph.D. Fall 2022 - Spring 2023
Jieyu Zhou, CMU, Master Student Research Assistant
Now Georgia Tech Interactive Computing Ph.D. Spring 2022 - Spring 2023
Shixian Xie, CMU, Master Student Research Assistant
Now CMU HCII Ph.D. Summer 2022 - Spring 2023
Bill Guo, CMU, Undergraduate HCI Research Assistant Summer 2021 - Fall 2022
Leijie Wang, Tsing-hua University, Undergraduate HCI Research Assistant
Now UW CSE Ph.D. Spring 2021

Project Mentorship

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

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).