

MENGTI ZHANG

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Assistive Robotics
Healthcare Architecture
Human-Robot Interaction

Interactive & Adaptive Environment
Human Centered Design
Ergonomics & Anthropometric Modeling

CURRENT WORK

New York Institute of Technology, Visiting Assistant Professor in Architecture (2022)

LICENSURE

Registered Architect, New York state license#: 043995.

EDUCATION

Cornell University 2022, College of Human Ecology, Architectural Robotics Lab
PhD in Human Behavior and Design (*Department of Human Centered Design*)
Minor in: Information Science, Electrical & Computer Engineering

Harvard University 2013, Graduate School of Design
Master in Design Studies, Concentration: Resilient Urban Planning

Cornell University 2010, College of Art, Architecture and Planning
Bachelor of Architecture, Graduated with Charles Goodwin Sands Medal

COMPETITION AWARDS

Fellowships / Grants

- Cornell Alumni Fellowship, 2022
- NSF Travel Grant, IEEE/ACM CHASE 2021
- College of Human Ecology Summer Fellowship, 2021
- Sage Fellowship, Cornell University, 2018

Merit Award (Group)
Biomimicry Global Design Challenge 2019
The Biomimicry Institute

Honorable Mention (Group)
UIA-PHG International Student & Young Architect Competition, 2017. Smart, Green & Beyond: Healthcare Facility of the Future.

Honorable Mention
Evolu Sky Scraper Competition, 2011

Finalist

Moon Capital Competition, 2010, Google Lunar X Prize, BSA; Covered on Scientific American, CNN, exhibited in AIA Headquarters, National Air Space Museum.

Honor Award

Washington Unbuilt Competition, AIA-DC, 2010, Covered on ArcNews

Finalist

QingPu Master-Plan Competition China 2008

First Place

Roanoke Urban Effect Competition Virginia 2008

Second place

Seipp Prize 2007
Cornell University

Honorable Mention

York Prize 2006,
Cornell University

PROFESSIONAL EXPERIENCES

HDR Inc, Architectural Designer (Healthcare), San Francisco (Jan 2014 - July 2018)

- Served as the core member for office wide new project and competition pursuits.
- Served as local project team BIM manager.
- Assisted in design and planning of healthcare / S&T projects at all phases.
- Parametric design and rendering.
- Construction Administration (RFI, Submittal, PR, ASI, CCO, PCO)

Gensler, Technical Architect, Washington DC (2010 - 2011)

- Assisted in designing and drawing production for commercial & mixed use projects.

ACADEMIC EXPERIENCES

Paper Reviewer

- ACM- Designing Interactive Systems, pictorial track, 2021
- ACM- Tangible Embedded and Embodied Interaction, pictorial track, 2022

Cornell University, Teaching Assistant (2019-2022)

- DEA 2730 - Human Centered Design Methods
- DEA 4402 - Disruptive Design Projects for Social & Environmental Responsibility
- DEA 3301 - Design UX with Technology Studio
- DEA 4700 - Applied Ergonomics (human centered design, interaction studio)
- DEA 2203 - Studio Shift (architecture)
- DEA 3030 - Materials for Design & Sustainability
- DEA 3050 - Construction Documentation: CAD and BIM
- DEA 4610 - Professional Communication and Portfolio
- DEA 4500 - Policy Meets Design: High-Impact Facilities of the 21st Century
- DEA 4040 - Professional Practices and Ethics
- DEA 2020 - Introduction to Sustainable Design

Harvard University, Zofnass Program of Sustainable Infrastructure
Research Consultant (2013-2014)

- Research and design (info-graphics) on climate change related data and information.

Harvard University, Undergraduate general education, Teaching fellow (Fall 2012)

- Taught the lab section of an undergraduate class on GIS and geo-data visualization.

PROFESSIONAL PROJECTS

UCSF Benioff Children's Hospital of Oakland

Renovation & Expansion, Oakland CA, 2014

Duty: -Coordinated hospital renovation and CUP with MEP.

ZheJiang University Medical Campus

New Construction (2000 beds 3.2 Million sqft), Zhejiang China, 2014

Duty: -Assisted in SD phase documentation
-Assistant lead designer in building exterior and interior .
-Created 40+ renderings
-Created presentation PPT

Umm Al Qura Medical Campus

Expansion, Saudi Arabia, 2014

Duty: -Design of exterior courtyard options and parametric skin

Health Right 360 Clinic

Adaptive Re-use, San Francisco CA, 2015

Duty: -Created interior renderings
-Assisted in SD, DD set

Glory Shantou University Hospital

New Construction (2000 beds), Shantou China, 2015

Duty: -Assisted in concept deliverables
-Created massing, exterior design, elevation skin iterations
-Created presentation PPT

Stanford SLAC Photon Science Laboratory Building

New Construction, Palo Alto CA, 2015

Duty: -Assisted in SD set
-Created illustration images (exploded axons, section perspectives)

Kaiser Permanente RAD

Corporate level concept typology design, 2016

Duty: -Brainstormed new design concepts for ambulatory facilities
-Created building massing and planning iterations
-Created concept models and renderings

Al Khor Hospital

New Construction, Qatar, 2016

Duty: -Assisted in preliminary building solar study

Gilead B353 VP Office

TI renovation, Foster City CA, 2016

Duty: -Created interior renderings

Intermountain Dixie Regional Medical Center

Expansion & Renovation (320,000 sqft), St. George Utah, 2016-2017

Duty: -Assisted in building design for concept deliverables
-Assisted in SD, DD, CD set
-Served as BIM model manager
-Created exterior and interior renderings
-Structural, MEP, Consultant, Subs coordination (e.g. ceiling, MRI magnet, Boom, etc)
-Assisted in CA (RFI, ASI, PR, CCO)

EverBright Hainan Medical Center

Concept Master Plan, Hainan China, 2017

Duty: -Created master plan design options

Intermountain Spanish Fork Hospital

New Construction, Spanish Fork Utah, 2017

Duty: -Assisted in SD set assembly
-Conducted fire life safety analysis
-Served as BIM model manager, created on-demand Revit operations by Dynamo

Chongqing Ourui Hospital

Expansion (1000 beds, 1.6 Million sqft), Chongqing China, 2017

Duty: -Created design concepts and massing options

MENGNU ZHANG

PUBLICATIONS PRESENTATIONS EXHIBITIONS

1:First author, 2:Double blind,
3:Single blind, 4:Full paper /
chapter, 5: Position paper, 6:Video

IEEE International Workshop on Robot and Human Communication (1,2,4)

M. Zhang, T. Xu, J. Hardin, J. Jiaqi Cai, J. Brooks and K. E. Green, "How Many Robots Do You Want? A Cross-Cultural Exploration on User Preference and Perception of an Assistive Multi-Robot System," 2021 30th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN), 2021, pp. 580-585, doi: 10.1109/RO-MAN50785.2021.9515396.

Springer Series in Adaptive Environments (1,3,4)

M. Zhang, J. Hardin, J. Cai, J. Brooks and K. Green, "Self-Organizing Robot Team (SORT): A Multi-Robot, Wall Climbing Organizer-and-Delivery System for Living Spaces," 2022 Springer Series in Adaptive Environments (In press).

Association for Computer Aided Design In Architecture (1,3,4)

M. Zhang, C. Dewey, and S. Kalantari, "Dynamic Anthropometric Modeling Interface (DAMI) - A Kinect-Based Anthropometric Modeling Work Process for Patient Room Layout Optimization and Nurse Posture Evaluation," in proceeding of ACADIA 2020 Distributed Proximities, edited by B. Slocum, V. Ago, S. Doyle, A. Marcus, M. Yablonina, and M. del Campo. volume 1 p110-119. http://papers.cumincad.org/data/works/att/acadia20_110.pdf

IEEE International Workshop on Robot and Human Communication (1,3,5)

M. Zhang, J. Hardin, J. Brooks and K. E. Green, "Bridging the Ambient Environment and HRI: Using Site-Specific Robots to Create Context-Conscious Interaction", 2020 First international workshop on Designery HRI Knowledge. Held in conjunction with the 29th IEEE International Conference on Robot and Human Interactive Communication. http://hridesign.eu/Position_papers.html

EAI Pervasive Health (1,3,5)

M. Zhang, "Self-Organizing Robot Team (SORT): A Multi-Agent System of Wall-Climbing Robots for Independent Living", 2020 EAI Pervasive Health Doctoral Consortium.

IEEE Conference on Robotics and Automation (1,6)

M. Zhang, K. E. Green, "Get Organized! Imagining an Assistive Wall-Climbing Multi-Robot System for Sorting and Delivering Domestic Items". (To be presented at conference in 2022)

IEEE/ACM CHASE

Co-presented a paper on behalf of the authors at IEEE/ACM Conference on Connected Health Applications, Systems, and Engineering Technologies as an awardee of the CHASE NSF travel grant.

IDEC Annual Conference (Interior Design Educators Council)

S.Y. Yoon, M. Zhang, 2022 "Community-Engaged Learning and Co-Designing: Working with Local Artists for a Library Cafe" (in press)

Invited talks

"Augmenting Ambient Environments with Assistive Robots to Improve Life Quality and Understand Human-Environment Relations", MIT CSAIL HCI Engineering Group

Exhibition

[In-Touch: A tactile language encoder]
SWARM: Ecology, Digitality, Sociality. Cornell Council for the Arts, Biennial 2020
<https://cca.cornell.edu/portfolio/mengni-zhang-2020-cornell-biennial/>

Exhibition (Group)

[The Foolish Oldman Project]
Urbanism\Architecture Bi-City Biennale (UABB) of Shenzhen and HongKong, 2019
<http://szhkbiennale.org.cn/En/Exhibits/details.aspx?id=10003235>

TEACHING ACHIEVEMENTS

IDEC (Interior Design Educators Council) 2022 Student Design Competition

- Advised student group from DEA 3301 won first place in North East region and Honorable Mention at national level.
- Advised student group from DEA 3301 won second place in North East region.
<https://idec.org/2022-2/>

IIDA 2022 Student Design Competition

- Advised student group from DEA 3301 won third place.
<https://iida.org/competition/2022-student-design-competition>