Kexin Wang

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Research interests: Digital Fabrication · Intelligent Textiles · Robotic Tactile Sensing · Robot Learning · HRI

RESEARCH EXPERIENCE

MIT CSAIL, HCI Engineering Group (Prof. Stefanie Mueller)

Research Affiliate — Jun 2024 – present

Visiting Student Researcher — Aug 2023 – Jun 2024

- Programmable electrostatic flocking (SCF 2026)
- Multi-channel flocked tactile skins co-fabricated with robot shells (in preparation for IROS 2027)
- Data-driven sensor layout design for tactile gloves (in preparation for IROS 2027)
- 3D-printed triboelectric nanogenerators (UIST 2025, Honorable Mention Award)
- Other collaborations (2026): voxel robotic assembly (MIT CBA & HSU Hamburg); robotic gel printing (MIT Media Lab)

MIT Media Lab, Critical Matter Group (Prof. Behnaz Farahi), Visiting Artist — Nov 2024 – Apr 2025

- Programmable electrostatic flocking

Tsinghua University, Pervasive HCI Lab (Prof. Chun Yu), Research Assistant — Apr 2023 – Jul 2023

- AI-generated user interfaces

EDUCATION

Brown University & Rhode Island School of Design, Joint Master's degree in Design Engineering — 2023–2024

- Relevant coursework: Deep Learning in Neuroethology, Introduction to Robotics, Innovation in Medical Devices

China Academy of Art, Bachelor's degree in Fashion and Accessories Design — 2017–2021

- Relevant coursework: Pattern Making, Garment Making, Sewing Technique, Knitwear Construction, Embroidery

Additional coursework

- Harvard University, Neurophysiology and Neural Interfaces (Brown Exchange Scholar Program) — 2023
- MIT, Statistical Inference for Brain and Cognitive Sciences (IAP) — 2024

ENTREPRENEURSHIP & ACTIVITIES

Automotive metal-parts factory fieldwork: months-long residency at a family-run factory in Ningbo, China, studying the workflows of metal-manufacturing workers on real production lines — 2026

Cultigen, Founder: a global network that uses AI to turn research into hands-on courses people can take in person in their own cities, run through local community labs; first learning community **FunguyLab** (biotech education) launched in Cambridge, Baltimore, Fullerton, Shanghai, Berlin, and Ghent — 2026

MIT Tech Art Hackathon (Artificial Imagination), core organizer: hosted at MIT Media Lab in partnership with ACM SIGGRAPH, pairing mid-career artist-technologists with MIT researchers to co-create works — 2026–2027

PUBLICATIONS (*equal contribution)

1. **Kexin Wang**, Marwa AlAlawi, Yitong Sun, Jiaming Liu, Stefanie Mueller. TriFlock: Selective Electrostatic Flocking via Multi-material 3D Printing. *SCF 2026 Adjunct.*
2. Marwa AlAlawi, **Kexin Wang**, Regina Zheng, Adelene Chan, Martin Feick, Stefanie Mueller. Ori-TENG: 3D Printed Origami Tessellations as Triboelectric Nanogenerators for Self-powered Sensing and Energy Harvesting. *UIST 2025 Adjunct.* 🏆 **Best Poster Nominee, Honorable Mention Award.**
3. **Kexin Wang**, Marwa AlAlawi, Minglu Fang, Marcello Tania, Jiaming Liu, Ruipeng Wang, Qingfeng Zhou, Stefanie Mueller. Biocompiler: Compiling Spatial Network Optimization Problems into Living Solvers with a Digital Fabrication System. *NeurIPS 2026 Creative AI Track Paper.*
4. Ruipeng Wang, Vera Yu Wu, **Kexin Wang**, Haochen Xu. Born, Not Made: Embodied Artificial Life and Intra-active Agency in Machine Reproduction. *NeurIPS 2026 Creative AI Track Artwork.*
5. Shuowen Li*, **Kexin Wang***, Minglu Fang, Danqi Huang, Ali Asadipour, Haipeng Mi, Yitong Sun. Participatory Evolution of Artificial Life Systems via Semantic Feedback. *SIGGRAPH Asia 2025 Art Papers.*

6. **Kexin Wang**, Ivy He, Jinke Li, Ali Asadipour, Yitong Sun. Exploring Fungal Morphology Simulation and Dynamic Light Containment from a Graphics Generation Perspective. *SIGGRAPH Asia 2024 Art Papers.* Featured on Hackaday.
7. **Kexin Wang***, Yitong Sun*, Ticha Sethapakdi, Tianyu Yu, Yixin Wang, Stefanie Mueller. !nteractivesPub: Redistributing Author and Reader Effort through Interactive Academic Authoring. *CHI 2026 Extended Abstracts.*
8. Marcello Tania, Alexander Htet Kyaw, **Kexin Wang**, Jiaming Liu, Stefanie Mueller, Tobias Redlich. Interactive Assembly: A Direct 3D CAD-to-Robot Pipeline for Modular Voxel Construction. *In submission.*

RELATED SKILLS

Fabrication: CAD and parametric modeling, multi-material 3D printing, embedded 3D printing of gel inks, robotic fabrication, laser cutting, CNC machine design & building

Textiles: programmable electrostatic flocking (developer of the TriFlock technique), digital & hand knitting, weaving, tufting, screen printing, sewing, flat patternmaking & draping

Robotics: closed-loop assembly pipelines (vision-based failure detection, human-in-the-loop recovery), custom end-effector design & integration (e.g., gel extrusion tools), robot arm control (UR10, LeRobot SO-ARM101), quadcopter assembly & flight-control programming (Duckiedrone; altitude PID control)

Neuroengineering: fabrication of wearable electrical impedance tomography (EIT) devices for deep-muscle sensing, electromyography (EMG) acquisition, signal processing & real-time control, functional electrical stimulation (FES)

Embedded: Arduino, ESP32, STM32, Raspberry Pi; sensing (pressure sensors, TENG, IMU)

Computing: Python (PyTorch, NumPy, OpenCV), Arduino/C++ for embedded sensing; machine learning, computer vision, optimization (CMA-ES, simulated annealing), path planning

TEACHING & MENTORSHIP

China Academy of Art: guest lecturer & co-organizer, one-month workshop "Design in Service of Livelihoods" 2024

Community labs **BUGSS**, **BosLab**, **TOP Lab**, **MANA** (Baltimore, Boston, Berlin, Shanghai): biotech course pilots

Mentored 10 students moving across disciplines through long-term one-on-one mentoring, including:

- **Minglu Fang** (admitted to UC Berkeley): Biocompiler (NeurIPS 2026 Creative AI), Participatory Evolution (SIGGRAPH Asia 2025) 2024–present
- **Shuowen Li** (Tsinghua University): Participatory Evolution (SIGGRAPH Asia 2025) 2024–2025
- **Yixin Wang** (ArtCenter College of Design): !nteractivesPub (CHI 2026 EA) 2025–present

AWARDS

Best Poster Nominee, Honorable Mention Award, UIST 2025 (Ori-TENG) 2025

Hazeltine Maker Grant, Brown School of Engineering (competitive research grant) 2023–2024

Undergraduate Academic Year Scholarship, China Academy of Art (multiple years) 2018–2021

SELECTED EXHIBITIONS & TALKS

NeurIPS Creative AI Track, Sydney: invited panelist, Panel C “Worlds that Outlive Us” 2026

IEEE VIS Arts Program (VISAP), MIT MET Warehouse, Cambridge, MA: exhibited work, *Born, Not Made* 2026

MIT Future Fest · Cambridge Science Carnival, MIT Museum, Cambridge, MA: FunguyLab booth 2026

Berlin New Media Week (BNMW) × TOP Lab, Berlin: artist & speaker 2026

Inclusion · Conference on the Bund, Shanghai: exhibiting artist 2026

World Artificial Intelligence Conference (WAIC) · MANA Future of AI, Shanghai & Nanjing: speaker 2026

MassRobotics Innovation Hub, Boston, MA: speaker 2025

BioFabricate Global Summit: presenter 2024

Shanghai Fashion Week SS22, Shanghai: textile designer, ANGEL CHEN runway collection 2021

REFERENCES

Stefanie Mueller, Associate Professor, MIT EECS, MIT CSAIL HCI Engineering Group · stefanie.mueller@mit.edu

Junyi Zhu, Assistant Professor, University of Michigan EECS, Sensing, Intelligence and eXperience (SIX) Lab · zhujunyi@umich.edu