

Ryo Suzuki Curriculum Vitae

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Research Interest

I am an Assistant Professor of the ATLAS Institute and the Department of Computer Science at the University of Colorado Boulder. My main research area is **Human-Computer Interaction**. My research goal is to **augment human intellect and creativity** by transforming the entire living world into a dynamic space for thought with the power of AR and AI.

Keywords: AR x AI, tangible interfaces, human-robot interaction, human-AI interaction

Employment

- 08/2024 – **University of Colorado Boulder**
current Assistant Professor, ATLAS Institute and Department of Computer Science
Director of Programmable Reality Lab
- 10/2023 – **Tohoku University**
current Visiting Professor
Interdisciplinary ICT Research Center for Cyber and Real Spaces
- 10/2020 – **University of Calgary**
08/2024 Assistant Professor, Department of Computer Science
Human-Computer Interaction Group (Interactions Lab)
Director of Programmable Reality Lab
- 07/2023 – **Google**
05/2024 Part-Time Research Collaborator
Blended Interaction Research and Devices Lab (BIRD Lab)
- 05/2020 – **Microsoft Research, Redmond**
08/2020 Research Intern in EPIC Group
with Mar Gonzalez-Franco, Eyal Ofek, Mike Sinclair
- 08/2015 – **University of Colorado Boulder**
05/2020 Research Assistant in Department of Computer Science and ATLAS Institute
with Daniel Leithinger, Mark D. Gross, Tom Yeh
- 05/2019 – **Adobe Research, Seattle**
08/2019 Research Intern in Creative Intelligence Lab
with Rubaiat Habib, Li-Yi Wei, Stephen DiVerdi, Wilmot Li
- 12/2017 – **University of Tokyo**
10/2018 Research Intern in JST ERATO
with Yasuaki Kakehi, Yoshihiro Kawahara, Ryuma Niiyama

- 05/2016 – **UC Berkeley**
08/2016 Research Intern in BiD Group
with Bjoern Hartmann, Gustavo Soares, Elena Glassman
- 05/2015 – **Stanford University**
08/2015 Research Intern in HCI Group
with Michael Bernstein
- 09/2014 – **University of Tokyo**
05/2015 Research Assistant in IIS Lab
with Koji Yatani
- 01/2015 – **AIST, Tsukuba**
03/2015 Research Intern in Media Interaction Group
with Jun Kato, Masataka Goto

Education

- 08/2015 – **University of Colorado Boulder**
07/2020 Ph.D. in Human-Computer Interaction, Department of Computer Science
PhD Dissertation: Dynamic Shape Construction and Transformation with Collective Elements
Committee: Daniel Leithinger, Mark D. Gross, Hiroshi Ishii, Takeo Igarashi, Tom Yeh
- 04/2011 – **University of Tokyo**
03/2013 M.A. in Computational Game Theory, Department of Economics
Thesis: Diffusion Process and Take-off Conditions of Online Platforms
Supervisor: Michihiro Kandori
- 04/2007 – **Tokyo Institute of Technology**
03/2011 B.Eng in Information and Social Science, School of Engineering

Peer-Reviewed Conference Publications

Quick summary since 2016: First Author (13), Last Author (9), Awarded Paper (2), CHI (11), UIST (12), IROS (2), ICRA (1), ICSE (1), ASSETS (1), and other venues. Over 1,900 citations with 23 h-index and 34 i10-index since 2016, based on Google Scholar as of 01/2025. ^a

^a<https://scholar.google.com/citations?user=klWjaQIAAAAJ>

- [J-] Hye-Young Jo, Hankyung Kim, **Ryo Suzuki**, Yong Ung Kwon, Seungwoo Je, Yoonji Kim. In-visibleTrainer: Toward Future Resistance Training with Haptic Wearables. 2025 (in submission to IMWUT)
- [J-] Boyu Li, Linjie Qiu, Duotun Wang, Qianxi Liu, **Ryo Suzuki**, Mingming Fan, Zeyu Wang. DesignMemo: Integrating Discussion Context into Online Collaboration with Enhanced Design Rationale Tracking. 2025 (in submission to CSCW)
- [J-] Jingyu Shi, Rahul Jain, Hyungjun Doh, **Ryo Suzuki**, Karthik Ramani. An HCI-Centric Survey and Taxonomy of Human-Generative-AI Interactions. *arXiv preprint*. 2025 (in submission)

- [J2] Marcus Friedel, Zachary McKendrick, Ehud Sharlin, **Ryo Suzuki**. PantographHaptics: A Technique for Large-Surface Passive Haptic Interactions via Scaling-Type Pantographs. *IEEE Transactions on Visualization and Computer Graphics*. 2025
- [J1] Hooman Hedayati, **Ryo Suzuki**, Wyatt Rees, Daniel Leithinger, Daniel Szafir. Designing Expandable-Structure Robots for Human-Robot Interaction *Frontiers in Robotics and AI*. 2022.
- [C-] Keiichi Ihara, Pavel Manakhov, Ken Pfeuffer, Yoshifumi Kitamura, **Ryo Suzuki**. Investigating Effects of AR Window Design on User Safety and Content Comprehension in Outdoor AR Walking Behaviors. *arXiv preprint*. 2024 (in submission to DIS)
- [C-] Aditya Gunturu, Shivesh Jadon, Nandi Zhang, Morteza Faraji, Jarin Thundathil, Tafreed Ahmad, Wesley Willett, **Ryo Suzuki**. RealitySummary: Exploring On-Demand Mixed Reality Text Summarization and Question Answering using Large Language Models. *arXiv preprint*. 2024 (in submission to DIS)
- [C37] Nandi Zhang, Yukang Yan, **Ryo Suzuki**. From Following to Understanding: Investigating the Role of Reflective Prompts in AR-Guided Tasks to Promote User Understanding. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2025. (**CHI '25**, acceptance rate: 24%)
- [C36] Keiichi Ihara, Kyzyl Monteiro, Mehrad Faridan, Rubaiat Habib Kazi, **Ryo Suzuki**. Video2MR: Automatically Generating Mixed Reality 3D Instructions by Augmenting Extracted Motion from 2D Videos. In *Proceedings of the International Conference on Intelligent User Interfaces*. ACM, 2024. (**IUI '25**, acceptance rate: 24%)
- [C35] Aditya Gunturu, Yi Wen, Nandi Zhang, Jarin Thundathil, Rubaiat Habib Kazi, **Ryo Suzuki**. Augmented Physics: Creating Interactive and Embedded Physics Simulations from Static Textbook Diagrams. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2024. (**UIST '24**, acceptance rate: 24%)
Best Paper Award (top 1%)
- [C34] Wanli Qian, Chenfeng Gao, Anup Sathya, **Ryo Suzuki**, Ken Nakagaki. SHAPE-IT: Exploring Text-to-Shape-Display for Generative Shape-Changing Behaviors with LLMs. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2024. (**UIST '24**, acceptance rate: 24%)
- [C33] Jian Liao, Kevin Van, Zhijie Xia, **Ryo Suzuki**. RealityEffects: Augmenting 3D Volumetric Videos with Object-Centric Annotation and Dynamic Visual Effects. In *Proceedings of the ACM Conference on Designing Interactive Systems*. ACM, 2024. (**DIS '24**, acceptance rate: 27%)
- [C32] Ryota Gomi, Kazuki Takashima, Kazuyuki Fujita, Yoshifumi Kitamura, **Ryo Suzuki**. InflatableBots: Inflatable Shape-Changing Mobile Robots for Large-Scale Encountered-Type Haptics in VR. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2024. (**CHI '24**, acceptance rate: 26%)
- [C31] Hye-Young Jo, **Ryo Suzuki**, Yoonji Kim. CollageVis: Rapid Previsualization Tool for Indie Filmmaking using Video Collages. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2024. (**CHI '24**, acceptance rate: 26%)

- [C30] Kongpyung Moon, Zofia Marciniak, **Ryo Suzuki**, Andrea Bianchi. 3D Printing Locally Activated Visual-Displays Embedded in 3D Objects via Conductive and Thermochromic Materials. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2024. (**CHI '24**, acceptance rate: 26%)
- [C29] Rasmus Lunding, Mille Skovhus Lunding, Tiare Feuchtner, Marianne Graves Petersen, Kaj Gronbaek, **Ryo Suzuki**. RoboVisAR: Immersive Authoring of Context-Based AR Robot Visualisations. *In Proceedings of the ACM/IEEE International Conference on Human Robot Interaction*. ACM, 2024. (**HRI '24**, acceptance rate: 25%)
- [C28] Neil Chulpongsatorn*, Mille Skovhus Lunding*, Nishan Soni, **Ryo Suzuki**. (* equally contributed) Augmented Math: Authoring AR-Based Explorable Explanations by Augmenting Static Math Textbooks. *In Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2023. (**UIST '23**, acceptance rate: 25%)
- [C27] Keiichi Ihara, Mehrad Faridan, Ayumi Ichikawa, Ikkaku Kawaguchi, **Ryo Suzuki**. HoloBots: Augmenting Holographic Telepresence with Mobile Robots for Tangible Remote Collaboration in Mixed Reality. *In Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2023. (**UIST '23**, acceptance rate: 25%)
- [C26] Zhijie Xia*, Kyzyl Monteiro*, Kevin Van, **Ryo Suzuki**. (* equally contributed) RealityCanvas: Augmented Reality Sketching for Embedded and Responsive Scribble Animation Effects. *In Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2023. (**UIST '23**, acceptance rate: 25%)
- [C25] Jiatong Li, **Ryo Suzuki**, Ken Nakagaki. Physica: Interactive Tangible Physics Simulation based on Tabletop Mobile Robots towards Explorable Physics Education. *In Proceedings of the ACM Conference on Designing Interactive Systems*. ACM, 2023. (**DIS '23**, acceptance rate: 24%)
- [C24] Mehrad Faridan, Bheesha Kumari, **Ryo Suzuki**. ChameleonControl: Teleoperating Real Human Surrogates through Mixed Reality Gestural Guidance for Remote Hands-on Classrooms. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2023. (**CHI '23**, acceptance rate: 28%)
- [C23] Kyzyl Monteiro, Ritik Vatsal, Neil Chulpongsatorn, Aman Parnami, **Ryo Suzuki**. Teachable Reality: Prototyping Tangible Augmented Reality with Everyday Objects by Leveraging Interactive Machine Teaching. *In Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2023. (**CHI '23**, acceptance rate: 28%)
- [C22] Hiroki Kaimoto, Kyzyl Monteiro, Mehrad Faridan, Jiatong Li, Samin Farajian, Yasuaki Kakehi, Ken Nakagaki, **Ryo Suzuki**. Sketched Reality: Sketching Bi-Directional Interactions Between Virtual and Physical Worlds with AR and Actuated Tangible UI. *In Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2022. (**UIST '22**, acceptance rate: 26%)
- [C21] Jian Liao, Adnan Karim, Shivesh Jadon, Rubaiat Habib, **Ryo Suzuki**. RealityTalk: Real-Time Speech-Driven Augmented Presentation for AR Live Storytelling. *In Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2022. (**UIST '22**, acceptance rate: 26%)

- [C20] Martin Nisser, Yashaswini Makaram, Lucian Covarrubias, Amadou Yaye Bah, Faraz Faruqi, **Ryo Suzuki**, Stefanie Mueller. Mixels: Fabricating Interfaces using Programmable Magnetic Pixels. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2022. (UIST '22, acceptance rate: 26%)
- [C19] Martin Nisser, Yashaswini Makaram, Faraz Faruqi, **Ryo Suzuki**, Stefanie Mueller Selective Self-Assembly using Re-Programmable Magnetic Pixels. In *Proceedings of 2022 IEEE/RSJ International Conference on Intelligent Robots and Systems*. IEEE, 2022 (IROS '22, acceptance rate: 48%)
- [C18] Martin Nisser, Leon Cheng, Yashaswini Makaram, **Ryo Suzuki**, Stefanie Mueller. ElectroVoxel: Electromagnetically Actuated Pivoting for Scalable Modular Self-Reconfigurable Robots. In *Proceedings of the IEEE International Conference on Robotics and Automation*. ACM, 2022. (ICRA '22, acceptance rate: 43%)
- [C17] **Ryo Suzuki**, Adnan Karim, Tian Xia, Hooman Hedayati, Nicolai Marquardt. Augmented Reality and Robotics: A Survey and Taxonomy for AR-enhanced Human-Robot Interaction and Robotic Interfaces. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2022. (CHI '22, acceptance rate: 26%)
- [C16] **Ryo Suzuki**, Eyal Ofek, Mike Sinclair, Daniel Leithinger, Mar Gonzalez-Franco. HapticBots: Distributed Encountered-type Haptics for VR with Multiple Shape-changing Mobile Robots. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2021. (UIST '21, acceptance rate: 25%)
- [C15] **Ryo Suzuki**, Rubaiat Habib, Li-Yi Wei, Stephen Diverdi, Wilmot Li, Daniel Leithinger. RealitySketch: Embedding Responsive Graphics and Visualizations in AR through Dynamic Sketching. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2020. (UIST '20, acceptance rate: 21%)
Honorable Mention Paper Award (top 5%)
- [C14] Hooman Hedayati, **Ryo Suzuki**, Daniel Leithinger, Daniel Szafir. PufferBot: Actuated Expandable Structures for Aerial Robots. In *Proceedings of 2020 IEEE/RSJ International Conference on Intelligent Robots and Systems*. IEEE, 2020 (IROS '20, acceptance rate: 47%)
- [C13] **Ryo Suzuki**, Hooman Hedayati, Clement Zheng, James Bohn, Daniel Szafir, Ellen Yi-Luen Do, Mark D. Gross, Daniel Leithinger. RoomShift: Room-scale Dynamic Haptics for VR with Furniture-moving Swarm Robots. In *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems*. ACM, 2020. (CHI '20, acceptance rate: 24%)
- [C12] **Ryo Suzuki**, Ryosuke Nakayama, Dan Liu, Yasuaki Kakehi, Mark D. Gross, Daniel Leithinger. LiftTiles: Constructive Building Blocks for Prototyping Room-scale Shape-changing Interfaces. In *Proceedings of the ACM International Conference on Tangible, Embedded and Embodied Interaction*. ACM, 2020. (TEI '20, acceptance rate: 28%)
- [C11] **Ryo Suzuki**, Clement Zheng, Yasuaki Kakehi, Tom Yeh, Ellen Do, Mark D. Gross, Daniel Leithinger. ShapeBots: Shape-changing Swarm Robots. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2019. (UIST '19, acceptance rate: 24%)

- [C10] Ryosuke Nakayama*, **Ryo Suzuki***, Satoshi Nakamaru, Ryuma Niiyama, Yoshihiro Kawahara, Yasuaki Kakehi. (* equally contributed) MorphIO: Entirely Soft Sensing and Actuation Modules for Programming Shape Changes through Tangible Interaction. *In Proceedings of the ACM Conference on Designing Interactive Systems*. ACM, 2019. (**DIS '19**, acceptance rate: 25%)
Best Paper Award (top 1%)
- [C9] **Ryo Suzuki**, Junichi Yamaoka, Daniel Leithinger, Tom Yeh, Mark D. Gross, Yoshihiro Kawahara, Yasuaki Kakehi. Dynablock: Dynamic 3D Printing for Instant and Reconstructable Shape Formation. *In Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2018. (**UIST '18**, acceptance rate: 20%)
- [C8] **Ryo Suzuki**, Koji Yatani, Mark D. Gross, Tom Yeh. Tabby: Explorable Design for 3D Printing Textures. *In Proceedings of the Pacific Conference on Computer Graphics and Applications*. Eurographics Association, 2018 (**PG '19**, acceptance rate: 26%)
- [C7] **Ryo Suzuki**, Jun Kato, Mark D. Gross, Tom Yeh. Reactile: Programming Swarm User Interfaces through Direct Physical Manipulation. *In Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, 2018. (**CHI '18**, acceptance rate: 25%)
- [C6] Hyunjoo Oh, Tung D. Ta, **Ryo Suzuki**, Mark D. Gross, Yoshihiro Kawahara, Lining Yao. PEP (3D Printed Electronic Papercrafts): An Integrated Approach for 3D Sculpting Paper-based Electronic Devices. *In Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, 2018. (**CHI '18**, acceptance rate: 25%)
- [C5] **Ryo Suzuki**, Abigale Stangl, Mark D Gross, Tom Yeh. FluxMarker: Enhancing Tactile Graphics with Dynamic Tactile Markers. *In Proceedings of the International ACM SIGACCESS Conference on Computers and Accessibility*. ACM, 2017. (**ASSETS '17**, acceptance rate: 26%)
- [C4] **Ryo Suzuki**, Gustavo Soares, Andrew Head, Elena Glassman, Ruan Reis, Melina Mongiovi, Loris D'Antoni, Bjoern Hartmann. TraceDiff: Debugging Unexpected Code Behavior Using Trace Divergences. *In Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing*. IEEE, 2017. (**VL/HCC '17**, acceptance rate: 29%)
- [C3] Andrew Head, Elena Glassman, Gustavo Soares, **Ryo Suzuki**, Lucas Figueredo, Loris D'Antoni, Bjoern Hartmann. Writing Reusable Code Feedback at Scale with Mixed-Initiative Program Synthesis. *In Proceedings of the ACM Conference on Learning at Scale*. ACM, 2017. (**L@S '17**, acceptance rate: 22%)
- [C2] Reudismam Rolim, Gustavo Soares, Loris D'Antoni, Oleksandr Polozov, Sumit Gulwani, Rohit Gheyi, **Ryo Suzuki**, Bjoern Hartmann. Learning Syntactic Program Transformations from Examples. *In Proceedings of the International Conference on Software Engineering*. IEEE, 2017. (**ICSE '17**, acceptance rate: 19%)
- [C1] **Ryo Suzuki**, Niloufar Salehi, Michelle S. Lam, Juan C. Marroquin, Michael S. Bernstein. Atelier: Repurposing Expert Crowdsourcing Tasks as Micro-internships. *In Proceedings of the CHI Conference on Human Factors in Computing Systems*. ACM, 2016. (**CHI '16**, acceptance rate: 23%)

Workshop Organizers

- [W2] **Ryo Suzuki**, Mar Gonzalez-Franco, Misha Sra, David Lindlbauer, Hrvoje Benko. Everyday AR through AI-in-the-Loop. In *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 2025. (**CHI '25** Workshop)
- [W1] **Ryo Suzuki**, Mar Gonzalez-Franco, Misha Sra, David Lindlbauer, Hrvoje Benko. XR and AI: AI-enabled Virtual, Augmented, and Mixed Reality. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2023. (**UIST '23** Workshop)

Peer-Reviewed Demo and Poster Publications

- [D18] Neil Chulpongsatorn, Wesley Willett, **Ryo Suzuki**. HoloTouch: Interacting with Mixed Reality Visualizations through Smartphone Proxies. In *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 2023. (**CHI '23** Late-Breaking Work, acceptance rate: 34%)
- [D17] Cathy Fang, **Ryo Suzuki**, Daniel Leithinger. VR Haptics at Home: Repurposing Everyday Objects and Environments for Room-Scale VR Haptic Interaction. In *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 2023. (**CHI '23** Late-Breaking Work, acceptance rate: 34%)
- [D16] Mehrad Faridan, Marcus Friedel, **Ryo Suzuki**. UltraBots: Large-Area Mid-Air Haptics for VR with Robotically Actuated Ultrasound Transducers. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2022. (**UIST '22** Student Innovation Contest)
Honorable Mention Best Student Innovation Contest Award (Top Three)
- [D15] Marcus Friedel, Ehud Sharlin, **Ryo Suzuki**. HapticLever: Kinematic Force Feedback using a 3D Pantograph. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2022. (**UIST '22** Poster)
- [D14] **Ryo Suzuki**, Rubaiat Habib, Li-Yi Wei, Stephen Diverdi, Wilmot Li, Daniel Leithinger. RealitySketch: Augmented Reality Sketching for Real-time Embedded and Responsive Visualizations. *SIGGRAPH Asia 2021 Real-Time Live!*. ACM, 2021. (**SIGGRAPH Asia '21** Real-Time Live!)
- [D13] Hiroki Kaimoto, Samin Farajian, **Ryo Suzuki**. Swarm Fabrication: Reconfigurable 3D Printers and Drawing Plotters Made of Swarm Robots. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2021. (**UIST '21** Student Innovation Contest)
Best Student Innovation Contest Award (Top One)
- [D12] Martin Nisser, Leon Cheng, Yashaswini Makaram, **Ryo Suzuki**, Stefanie Mueller. Programmable Polarities: Actuating Interactive Prototypes with Programmable Electromagnets. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2021. (**UIST '21** Demo)

- [D11] **Ryo Suzuki**, Eyal Ofek, Mike Sinclair, Daniel Leithinger, Mar Gonzalez-Franco. Demonstrating HapticBots: Distributed Encountered-type Haptics for VR with Multiple Shape-changing Mobile Robots. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2021. (**UIST '21 Demo**)
- [D10] **Ryo Suzuki**, Rubaiat Habib, Li-Yi Wei, Stephen Diverdi, Wilmot Li, Daniel Leithinger. Demonstrating RealitySketch: Embedding Responsive Graphics and Visualizations in AR through Dynamic Sketching. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2020. (**UIST '20 Demo**)
Honorable Mention Best Demo Award (Top Two Demos)
- [D9] **Ryo Suzuki**. Collective Shape-changing Interfaces. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2019. (**UIST '19 Doctoral Consortium**)
- [D8] **Ryo Suzuki**, Ryosuke Nakayama, Dan Liu, Yasuaki Kakehi, Mark D. Gross, Daniel Leithinger. LiftTiles: Modular and Reconfigurable Room-scale Shape Displays through Retractable Inflatable Actuators. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2019. (**UIST '19 Poster**)
- [D7] **Ryo Suzuki**, Clement Zheng, Yasuaki Kakehi, Tom Yeh, Ellen Do, Mark D. Gross, Daniel Leithinger. Demonstrating ShapeBots: Shape-changing Swarm Robots. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2019. (**UIST '19 Demo**)
- [D6] **Ryo Suzuki**, Junichi Yamaoka, Daniel Leithinger, Tom Yeh, Mark D. Gross, Yoshihiro Kawahara, Yasuaki Kakehi. Demonstrating Dynablock: Dynamic 3D Printing for Instant and Reconstructable Shape Formation. In *Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2018. (**UIST '18 Demo**)
- [D5] **Ryo Suzuki**, Gustavo Soares, Elena Glassman, Andrew Head, Loris D'Antoni, Bjoern Hartmann. Exploring the Design Space of Automatically Synthesized Hints for Introductory Programming Assignments. In *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 2017. (**CHI '17 Late-Breaking Work**, acceptance rate: 37%)
- [D4] Stanford Crowd Research Collective (For the full author list, please see the publication), Daemon: A Self-Governed Crowdsourcing Marketplace. In *Adjunct Proceedings of the Annual ACM Symposium on User Interface Software and Technology*. ACM, 2015. (**UIST '15 Poster**)
- [D3] **Ryo Suzuki**. Toward a Community Enhanced Programming Education. In *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems*. ACM, 2015. (**CHI '15 Workshop Paper**)
- [D2] **Ryo Suzuki**, Interactive and Collaborative Source Code Annotation. In *Proceedings of the International Conference on Software Engineering*. IEEE, 2015. (**ICSE '15 Poster**)
- [D1] **Ryo Suzuki**, Network Thresholds and Multiple Equilibria in the Diffusion of Content-based Platforms. In *Proceedings of the International Conference on Web and Internet Economics*. Springer, 2014. (**WINE '14 Poster**)

Patents

- [P2] Mar Gonzalez-Franco, Eyal Ofek, Mike Sinclair, **Ryo Suzuki**. “Mobile Haptic Robots”. U.S. Patent 17/356,513, 2022.
- [P1] Rubaiat Habib Kazi, Stephen Joseph DiVerdi, **Ryo Suzuki**, Li-Yi Wei, Wilmot Wei-Mau Li. “Systems for Augmented Reality Sketching.” U.S. Patent 11,158,130, 2021, issued October 26, 2021.

Awards and Scholarships

Awards

- 2024 **UIST 2024 Best Paper Award**
- 2022 **UIST 2022 Honorable Mention Best Student Innovation Contest Award**
(for Mehrad Faridan and Marcus Friedel)
- 2021 **UIST 2021 Best Student Innovation Contest Award**
(for Samin Farajian and Hiroki Kaimoto)
- 2021 **Snap Creative Challenge Award for The Future of Co-located Social AR**
- 2020 **UIST 2020 Honorable Mention Best Demo Award**
- 2020 **UIST 2020 Honorable Mention Best Paper Award**
- 2020 **University of Colorado Boulder Outstanding Research Award in CS**
- 2019 **DIS 2019 Best Paper Award**
- 2018 **Google PhD Fellowship Finalist**
- 2013 **Tech Crunch Disrupt in Tokyo 2013 Finalist**
- 2012 **University of Tokyo Startup Competition 1st Prize Winner**

Scholarship

- 2015-2020 **CU Boulder Travel Grant** (\$500-\$1,200 for each conference travel)
- 2015-2020 **Nakajima Foundation Scholarship** (\$120,000 stipend for 5 years and 2 years tuition coverage)
- 2013-2015 **JSPS Research Fellow DC1** (\$72,000 stipend for 2 years)
- 2011-2013 **JASSO Fellow (Total Exemption for Outstanding Students)** (\$20,000 stipend for 2 years)
- 2010 **Tohso Foundation Scholarship** (\$3,600)

Funding

The amount of total funding is over \$1M CAD (about \$750K USD) as of 11/2023 (excluding startup fund).

- 2025 **PI: Ryo Suzuki.** Adobe Collaborative Research Gift Funding (with Rubaiat Habib Kazi), \$15,000 USD
- 2024 **PI: Ryo Suzuki.** Combining Augmented Reality with AI for Immersive Media. *Mitacs*, Mitacs Globalink Research Internship Funding, \$20,000 CAD
- 2023-2024 **Co-PI: Ryo Suzuki** (PI: Mahdis Bisheban). North Atlantic Organized Track Structure Flight Track Planning. *Mitacs*, Mitacs Accelerate, \$80,000 CAD
- 2023-2027 **PI: Ryo Suzuki.** Understanding and Developing Real-World Human-AI Interaction. *JST in Japan*, PRESTO (Sakigake), \$400,000 CAD (40M JPY)
- 2023 **PI: Ryo Suzuki.** Google Collaborative Research Gift Funding (with Mar Gonzalez-Franco), \$30,000 USD
- 2023-2024 **PI: Ryo Suzuki** (Co-PI: Ehud Sharlin, Lora Oehlberg, Wesley Willett, Aditya Shekhar Nit-tala). Holographic Physical Telepresence through Mixed Reality and Robotic Environments. *NSERC*, NSERC RTI, \$150,000 CAD
- 2022 **PI: Ryo Suzuki.** Adobe Collaborative Research Gift Funding (with Rubaiat Habib Kazi), \$25,000 USD
- 2022 **PI: Ryo Suzuki** (Co-PI: Ken Nakagaki). UofC x UofC Future of Human-Robot Interaction Workshop. *University of Calgary*, International Research Partnership Workshop Grant. \$10,000 CAD
- 2022 **Co-PI: Ryo Suzuki** (PI: Kangsoo Kim). UofC-KAIST Workshop on the Future of eXtended Reality. *University of Calgary*, International Research Partnership Workshop Grant. \$10,000 CAD
- 2021 **PI: Ryo Suzuki.** Adobe Collaborative Research Gift Funding (with Rubaiat Habib Kazi), \$15,000 USD
- 2021 **PI: Ryo Suzuki** (for Hiroki Kaimoto). *Mitacs*, Mitacs Globalink Research Award, \$6,000
- 2021 **PI: Ryo Suzuki** (for Kyzyl Monteiro and Ritik Vatsal). Augmented Reality based Real-time Visualization to Seamlessly Integrate Virtual and Physical Worlds. *Mitacs*, Mitacs Globalink Research Internship Funding
- 2021 **PI: Ryo Suzuki.** Augmenting In-person Verbal Communication by Adding Interactivity to Transcribed Spoken Words in AR. *Snap, Inc*, Snap Creative Challenge Funding, \$15,000 USD
- 2021 **PI: Ryo Suzuki** (for Harrison Chen). Investigating Human-Drone Interaction with VR Simulation. *NSERC*, NSERC USRA, \$6,000 CAD
- 2021 **PI: Ryo Suzuki** (for Colin Au Yeoung). Situated Guidance and Visualization to Support Personal Fabrication Activities. *NSERC*, NSERC USRA, \$6,000 CAD

- 2021 **PI: Ryo Suzuki.** Mixed Reality for IoT and Robotics: Opportunities and Challenges for Immersive Human-Robot Interaction. *Tohoku University*, Tohoku University Research Institute of Electrical Communication, Cooperative Research Projects, \$18,000 CAD
- 2021-2025 **PI: Ryo Suzuki.** Swarm Robotic Encountered-Type Haptic Interaction in Immersive Environments. *NSERC*, NSERC Discovery Grant Funding, \$145,000 CAD
- 2021 **PI: Ryo Suzuki.** *University of Calgary*, Startup Funding, \$100,000 CAD
- 2019 **PI: Ryo Suzuki.** Adaptive Physical Environments with Distributed Swarm Robots. *Ministry of Internal Affairs and Communications in Japan*, Innovation Research Funding, \$30,000 USD
- 2019 **PI: Ryo Suzuki.** Adobe Gift Funding, \$5,000 USD
- 2018 **PI: Ryo Suzuki.** Dynamic Physical Interfaces. *JST in Japan*, ACT-I Funding for Young Scholars, \$30,000 USD and Mentorship Opportunity (my mentor was Takeo Igarashi)
- 2018 **PI: Ryo Suzuki.** Programmable Architecture with Soft Inflatable Actuator. *Leave a Nest Foundation in Japan*, Emerging Research Funding for AI and Interdisciplinary Research \$5,000 USD
- 2013-2015 **PI: Ryo Suzuki.** Network-based Diffusion Analysis for Online Community, *JSPS*, KAKENHI Grants-in-Aid for Scientific Research, \$40,000 USD

Student Funding and Scholarship

- 2023 **Mehrad Faridan.** Gary Marsden Travel Awards, *ACM SIGCHI*, \$3,000 CAD
- 2023 **Kyzyl Monteiro.** Gary Marsden Travel Awards, *ACM SIGCHI*, \$3,000 CAD
- 2023 **Shivesh Jadon.** Graduate Student Scholarship, *Alberta Innovates*, \$18,600 CAD
- 2023 **Marcus Friedel.** Graduate Student Scholarship, *Alberta Innovates*, \$18,600 CAD
- 2022 **Neil Chulpongsatorn.** Alberta Graduate Excellence Scholarship (AGES), *Alberta Government*, \$11,000 CAD
- 2022 **Adnan Karim.** Alberta Graduate Excellence Scholarship (AGES), *Alberta Government*, \$11,000 CAD
- 2022 **Shivesh Jadon.** Alberta Graduate Excellence Scholarship (AGES), *Alberta Government*, \$11,000 CAD
- 2022 **Shivesh Jadon.** Rizvi Family Graduate Scholarship, *University of Calgary*, \$2,000 CAD
- 2022 **Shivesh Jadon.** Departmental Research Award, *University of Calgary*, \$11,000 CAD
- 2022 **Marcus Friedel.** Canada Graduate Scholarships Master's Program (CGS-M), *NSERC*, \$17,500 CAD
- 2021 **Marcus Friedel.** Departmental Research Award, *University of Calgary*, \$11,000 CAD

Teaching

Courses

- Spring 2025* **ATLS 4519/5519: Tangible and Mixed Reality (Undergraduate)**
ATLAS Institute, University of Colorado Boulder
- Spring 2025* **ATLS 4519/5519: How to Hack (Almost) Anything (Undergraduate)**
ATLAS Institute, University of Colorado Boulder
- Fall 2024* **ATLS 5519/CSCI 7000: Creative Spatial Interfaces (Graduate)**
ATLAS Institute, University of Colorado Boulder
- Winter 2024* **CPSC 599: Design of Mixed Reality Apps (Undergraduate)**
Department of Computer Science, University of Calgary
- Winter 2024* **CPSC 584: Human-Robot Interaction (Undergraduate)**
Department of Computer Science, University of Calgary
- Fall 2023* **CPSC 581: Human-Computer Interaction II (Undergraduate)**
Department of Computer Science, University of Calgary
- Winter 2023* **CPSC 599: Design of Mixed Reality Apps (Undergraduate)**
Department of Computer Science, University of Calgary
- Winter 2023* **CPSC 584: Human-Robot Interaction (Undergraduate)**
Department of Computer Science, University of Calgary
- Fall 2022* **CPSC 581: Human-Computer Interaction II (Undergraduate)**
Department of Computer Science, University of Calgary
- Winter 2022* **CPSC 601: AR/VR and Robotics (Graduate)**
Department of Computer Science, University of Calgary
- Fall 2021* **CPSC 581: Human-Computer Interaction II (Undergraduate)**
Department of Computer Science, University of Calgary
- Winter 2021* **CPSC 599: Design of Mixed Reality Apps (Undergraduate)**
Department of Computer Science, University of Calgary

Teaching Assistant

- Fall 2019* **CSCI 3002: Fundamentals of Human Computer Interaction (Undergraduate)**
Instructor: Prof. Shaun Kane
Department of Computer Science, University of Colorado Boulder
- Spring 2017* **ATLS 6000: Soft Robotics (Graduate)**
Instructor: Prof. Mark D. Gross
ATLAS Institute, University of Colorado Boulder
- Fall 2012* **Game and Network Theory (Graduate)**
Instructor: Prof. Michihiro Kandori
Department of Economics, University of Tokyo

Fall 2012 **Dynamic Programming and Optimization (Graduate)**

Instructor: Prof. Kazuya Kamiya

Department of Economics, University of Tokyo

Students

PhD Students

08/2024 – **Keiichi Ihara**

present PhD student
Mixed Reality
UIST'23

08/2024 – **Hye-Young Jo**

present PhD student
Mixed Reality
CHI'24

Master's Students

01/2023 – **Aditya Gunturu**

present MSc student
Mixed Reality and AI
UIST'24

09/2023 – **Nandi Zhang**

present MSc student
Mixed Reality
UIST'24, CHI'25

09/2023 – **Clara Xi**

08/2024 MSc student (co-supervised by Lora Oehlberg)
Human-Robot Interaction

01/2021 – **Neil Chulpongsatorn**

12/2023 MSc student and Undergraduate research student (CPSC 502 Course)
Mixed Reality / Data Visualization
Now: Singapore Management University
CHI'23, CHI'23 LBW, UIST'23

05/2021 – **Adnan Karim**

08/2023 MSc student
AR and Robotics
Now: Attabotics
CHI'22

- 09/2021 – **Shivesh Jadon**
 08/2023 MSc student (co-supervised by Wesley Willet)
 Augmented Language / Data Visualization
 Now: Apple
UIST'22
- 09/2021 – **Marcus Friedel**
 12/2023 MSc student (co-supervised by Ehud Sharlin)
 Wearable Body-scale VR Haptics
 Now: Startup Founder
UIST'22 SIC, UIST'22 Poster
- 09/2021 – **Samin Farajian**
 03/2022 MSc student
 Swarm User Interfaces / Augmented Reality
 Now: SHEER Lab
UIST'22, UIST'21 SIC

Undergraduate Students

- 12/2021 – **Mehrad Faridan**
present Undergraduate research student (CPSC 503 Course)
 Augmented Conversation / Remote Telepresence
UIST'22, UIST'22 SIC, CHI'23, UIST'23
- 01/2023 – **Jarin Thundathil**
present Undergraduate research student (CPSC 503 Course / NSERC USRA)
 Augmented Textbooks / AR for Medical Applications
- 11/2023 – **Alan Alcocer Iturriza**
present Undergraduate research student
 Augmented Reality with Natural Language
- 04/2022 – **Kevin Van**
 10/2023 Undergraduate research student
 Augmented Reality Authoring Tool
UIST'23
- 04/2022 – **Zhijie Xia**
 10/2023 Undergraduate research student
 Augmented Reality Authoring Tool
UIST'23
- 01/2023 – **Melissa Hoang**
 07/2023 Undergraduate research student (CPSC 503 Course)
 Augmented Reality with Natural Language
- 01/2023 – **Bheesha Kumari**
 05/2023 Undergraduate research student (CPSC 503 Course)
 Remote Telepresence
CHI'23

- 01/2023 – **Nishan Soni**
 10/2023 Undergraduate research student (UCalgary PURE)
 Augmented Reality Authoring Tool
UIST'23
- 01/2023 – **Abhinav Pillai**
 05/2023 Undergraduate research student
 Augmented Reality for Medical Applications
- 01/2023 – **Saja Abufarha**
 05/2023 Undergraduate research student
 Augmented Reality with Natural Language
- 12/2021 – **Jian Liao**
 01/2023 Undergraduate research student (CPSC 503 Course)
 Augmented Presentation
UIST'22, CHI'23 LBW
- 05/2021 – **Tian Xia**
 03/2023 Undergraduate research student (CPSC 502 Course, co-supervised by Ehud Sharlin)
 AR for Robotics / Cross-scale Interactions with AR/VR
CHI'22
- 09/2022 – **Faiz Marsad**
 04/2023 Undergraduate research student (CPSC 502 Student)
 Augmented Reality and AI
- 04/2022 – **Muhammad Mahian**
 09/2022 Undergraduate research student (UCalgary PURE)
 Augmented Reality Authoring Tool
- 05/2021 – **Colin Au Yeung**
 04/2022 Undergraduate research student (NSERC USRA, co-supervised by Wesley Willet)
 Augmented Makrespace
- 09/2021 – **Kaynen Mitchell**
 03/2022 Undergraduate research student (CPSC 502 Course)
 Reconfigurable Swarm Robotic Displays
- 09/2021 – **Manjot Khangura**
 03/2022 Undergraduate research student (CPSC 502 Course)
 Survey, Taxonomy, and Evaluation of Embedded Data Visualization
- 09/2021 – **Manuel Rodriguez,**
 03/2022 Undergraduate research student (CPSC 502 Course)
 Live Video Annotation and Augmentation for Real-Time Sports Analysis
- 09/2021 – **Christopher Rodriguez**
 03/2022 Undergraduate research student (CPSC 503 Course)
 Robot Teleoperation with AR/VR

- 12/2021 – **Tiffany Tang**
 03/2022 Undergraduate research student (CPSC 503 Course)
 Swarm User Interfaces
- 12/2021 – **Edward Mah**
 03/2022 Undergraduate research student (CPSC 503 Course)
 Augmented Conversation
- 05/2021 – **Harrison Chen**
 09/2021 Undergraduate research student (NSERC USRA)
 Human-Drone Interaction

Visiting Students

- 12/2022 – **Keiichi Ihara**
 10/2023 Visiting MS student intern (University of Tsukuba)
UIST'23
- 12/2022 – **Freya Wen**
 09/2023 Visiting undergraduate student intern (City University of Hong Kong)
- 10/2022 – **Ryota Gomi**
 10/2023 Visiting MS student intern (University of Tohoku)
- 02/2023 – **Mille Lunding**
 08/2023 Visiting PhD student (Aarhus University)
UIST'23, HRI'24
- 02/2023 – **Rasmus Lunding**
 08/2023 Visiting PhD student (Aarhus University)
HRI'24
- 07/2021 – **Hiroki Kaimoto**
 05/2022 Mitacs Globalink student intern (University of Tokyo)
UIST'22
- 05/2022 – **Kyzyl Monteiro**
 08/2023 Mitacs Globalink summer student intern (IIIT Delhi)
UIST'22, CHI'23, UIST'23
- 05/2022 – **Ritik Vatsal**
 01/2023 Mitacs Globalink summer student intern (IIIT Delhi)
CHI'23
- 05/2022 – **Shrivatsa Mishra**
 01/2023 Mitacs Globalink summer student intern (IIIT Delhi)
- 06/2022 – **Johann Wentzel**
 01/2023 Visiting PhD student (University of Waterloo)
- 09/2021 – **Vaishvi Shah**
 08/2023 High-school research student (Henry Wise Wood High School)

- 05/2021 – **Curtis Engerdahl**
 09/2021 Summer undergraduate research student (University of Alberta)
- 05/2021 – **Gurnoor Aujla**
 09/2021 Summer undergraduate research student (University of Alberta)
- 05/2021 – **Carrie Rong**
 08/2021 Summer undergraduate research student (McGill University)

Remote Interns

- 10/2023 – **Xiaoan Liu**
 05/2024 Master's student at NYU
- 04/2023 – **Hye-Young Jo**
 05/2024 Master's student at KAIST
- 04/2023 – **Panayu Keelawat**
 07/2024 Amazon / Master's graduate at UCSD

Student Collaborators

- 09/2023 – **Zhu Wang**
present Post-doc at NYU (Ken Perlin's Student)
- 09/2023 – **Keru Wang**
present PhD student at NYU (Ken Perlin's Student)
- 06/2023 – **Jingyu Shi**
present PhD student at Purdue University (Karthik Ramani's Student)
- 06/2023 – **Rahul Jain**
present PhD student at Purdue University (Karthik Ramani's Student)
- 01/2023 – **Justin Moon**
present PhD student at KAIST (Andrea Bianchi's Student)
- 01/2021 – **Martin Nisser**
 11/2022 PhD student at MIT CSAIL (Stefanie Mueller's Student)

Thesis Committee

- 2023 **Christopher Smith**
 MSc Thesis Committee (supervisor: Ehud Sharlin)
 Title: Expanding the User Interactions and Design Process of Haptic Experiences in Virtual Reality
- 2023 **Yuki Onishi**
 PhD Thesis Committee (supervisor: Yoshifumi Kitamura)
 Title: Actuated Walls as Media Connecting and Dividing Physical/Virtual Spaces

- 2021 **Brennan Jones**
PhD Thesis Committee (supervisor: Tony Tang)
Title: Designing Remote Collaboration Technologies for Wilderness Search and Rescue
- 2020 **Kendra Wannamaker**
MSc Thesis Committee (supervisor: Wesley Willett)
Title: Situated Self-Tracking: Ideating, Designing, and Deploying Dedicated User-driven Personal Informatics Systems

Mentoring (During PhD)

- 2019 **Chrystalina Pharr**
Undergraduate student in Mechanical Engineering
University of Colorado Boulder
Project: ceiling-based swarm robots
- 2019 **James Bohn**
Undergraduate student in Computer Science
University of Colorado Boulder
Project: furniture-moving swarm robots
CHI'20
- 2018 **Ryosuke Nakayama**
Master student in Media Design
Keio University (now Sony)
Project: interactive soft robots and shape-changing inflatable structure
UIST'19 Poster, DIS'19, TEI'20
- 2018 **Takayuki Hirai**
Undergraduate student in Media Design
Keio University (now Nintendo)
Project: shape-changing swarm robots
- 2018 **Takumi Murayama**
Undergraduate student in Media Design
Keio University
Project: reprogrammable inflatable architectural structure
- 2017 **Kevin Kuwata**
Master student in Electrical and Computer Engineering
University of Colorado Boulder (now Apple)
Project: mm-scale swarm robots with electromagnetic actuation
- 2017 **Zhixian Jin**
Undergraduate student in Electrical and Computer Engineering
University of Colorado Boulder
Project: tactile feedback with actuated magnetic marker

- 2016 **Ruan Reis**
 Master student in Computer Science
 Federal University of Campina Grande
 Project: automated hint generation for programming assignment
ICSE'17
- 2015 **Michelle Lam**
 Undergraduate student in Computer Science
 Stanford University (now PhD at Stanford University)
 Project: micro-internship with repurposed crowdsourcing tasks
CHI'16
- 2015 **Juan Marroquin**
 Undergraduate student in Computer Science
 Stanford University (now Microsoft)
 Project: micro-internship with repurposed crowdsourcing tasks
CHI'16
- 2015 **Adam Ginzberg**
 Undergraduate student in Computer Science
 Stanford University (now Coda.io)
 Project: crowd research
UIST'15 Poster

Selected Press Coverage

- 11/2024 CU Boulder Today. *Textbooks come alive with new, interactive AI tool*
- 05/2023 Arch Magazine. *What if Instead of Living with Computers, We Lived in a Computer?*
- 04/2023 TechXplore. *A System that Augments Mixed Reality Visualizations using Smartphones or Tablets*
- 05/2022 UCalgary News. *New Shape Shifting Robot Design Offers Solutions for Long-Distance Space Missions*
- 02/2022 Forbes. *Programmable Matter: MIT Building Self-Assembling Robots for Space*
- 03/2022 IEEE Spectrum. *Programmable Blocks Tease Self-Assembling Space Structures Self-reconfiguring Robot Cubes Use Electromagnets to Shift Shapes in Zero-G*
- 02/2022 Popular Science. *These shape-shifting robots could make for great furniture in space*
- 02/2022 MIT News. *Robotic cubes shapeshift in outer space Self-reconfiguring ElectroVoxels use embedded electromagnets to test applications for space exploration*
- 02/2022 Engadget. *Scientists create cube robots that can shapeshift in space*
- 02/2022 TechXplore. *Robotic cubes: Self-reconfiguring ElectroVoxels use embedded electromagnets to test applications for space exploration*
- 02/2022 TechEBlog. *MIT Researchers Develop Shape-Shifting ElectroVoxel Robots for Space Exploration*

02/2022 TechEBlog. *MIT Researchers Develop Shape-Shifting ElectroVoxel Robots for Space Exploration*

02/2022 IEEE Spectrum. *Video Friday: Your weekly selection of awesome robot videos*

02/2022 Arduino Blog. *ElectroVoxel robots reconfigure themselves using magnets*

02/2022 Hackster.io. *These Magnetic Robots Assemble Like Voltron*

02/2022 Robotic Gizmos. *ElectroVoxel Cube Based Reconfigurable Robot*

01/2022 CGWorld. *RealitySketch: Augmented Reality Sketching in SIGGRAPH Asia*

11/2021 UCalgary News. *"Touchable spoken words" bring the fantastic to life*

07/2021 IEEE Computer Graphics and Applications. *Cover Story of "Real Virtual Reality" (vol. 41)*

03/2021 IT Media News. *Evolution of "AR Drawing"? RealitySketch, a sketching technology that works with objects in reality*

12/2020 TechXplore. *RealitySketch: An AR interface to create responsive sketches*

10/2020 ACM TechNews. *Pufferfish-inspired robot could improve drone safety*

10/2020 Interesting Engineering. *Pufferfish Mimicking Drones to Improve Aerial Safety*

10/2020 New Atlas. *Drone draws on the pufferfish to protect itself and others*

10/2020 Techable. *University of Colorado researchers unveil 'RoomShift' to move props in VR space in real life*

10/2020 Hackster.io. *Putting the Reality in Virtual Reality*

09/2020 Hackster.io. *PufferBot Is an Aerial Robot That Can Change Shape In-Flight*

09/2020 TechXplore. *RoomShift: A room-scale haptic and dynamic environment for VR applications*

09/2020 Engineering 360. *Team builds drone inspired by the pufferfish*

09/2020 TechXplore. *PufferBot: A flying robot with an expandable body*

09/2020 Yahoo News. *The University of Colorado Announced "RoomShift" where Robot Rearranges Furniture to Create Virtual Spaces in a Realistic Way*

09/2020 IT Media News. *RoomShift: Reconfigurable Environments for Virtual Reality*

02/2020 IT Media News. *Giant whistle module expands the room with the University of Colorado and other "LiftTiles" developments*

01/2020 Arduino Blog. *Prototype room-scale, shape-changing interfaces with LiftTiles*

01/2020 TechXplore. *LiftTiles: Actuator-based Building Blocks for Shape-changing Interfaces*

01/2020 ITMedia News. *A Swarm of Self-transforming Robots to Assist People*

11/2019 Hackster.io. *LiftTiles Turn Walls and Floors Into Reconfigurable Structures on Demand*

11/2019 Element 14. *Engineers Develop LiftTiles, a Scale Shape-changing Interface*

11/2019 Bouncy. *Swarm Robots that can Change Shape to Visualize Data*

10/2019 Hackster.io. *Swarming Robots Can Change Their Configuration to Handle Different Tasks*

09/2019 TechXplore. *ShapeBots: A Swarm of Shape-shifting Robots that Visually Display Data*

09/2019 Hackaday. *Tiny Robots that Grow Taller and Wider*

09/2019 Robotic Gizmo. *ShapeBots: Shape Changing Swarm Robots*

09/2019 Gadgetify. *ShapeBots: Shape Changing Swarm Robots*

10/2018 3DPrint.com. *Dynablock: 3D Prints That Assemble and Disassemble in Seconds*

10/2018 Hackster.io. *The Dynamic 3D Printing That Assembles and Disassembles Objects in Seconds*

10/2018 Arduino Blog. *Create Shapes Over and Over with the Dynablock 3D Printer*

10/2018 3DRuck.com. *Dynablock: Dynamischer 3D-Drucker erstellt Objekte in Sekunden*

10/2018 World Business Satellite (Japanese TV). *Repeatable 3D Printer*

10/2018 Nikkei Newspaper, *Modeling 3D Objects with Magnet-Embedded Blocks*

06/2016 Wired. *It's Not Just Robots: Skilled Jobs Are Going to Meatware*

Invited Talks

12/2023 The University of Tokyo, Tokyo (hosted by Takeo Igarashi)

12/2023 Mercari, Tokyo (hosted by Koya Narumi)

12/2023 Tohoku University, Sendai, Japan (hosted by Yoshifumi Kitamura)

11/2023 University of Washington, Seattle (hosted by Jon Froeliche)

11/2023 Microsoft Research, Redmond (hosted by Nathalie Riche)

05/2023 CNR - Institute of Cognitive Sciences and Technologies, Rome (hosted by Antonella Maselli)

10/2022 Future University Hakodate, Hakodate (hosted by Hiro Yoshida)

10/2022 Sony CSL, Kyoto (hosted by Jun Rekimoto)

07/2022 KAIST, Daejeon (hosted by Andrea Bianchi and Juho Kim)

05/2022 Calgary Public Library, Calgary

04/2022 Microsoft Research, Redmond (hosted by Andy Wilson and Ken Hinckley)

03/2022 CU Boulder, Boulder (hosted by Ellen Yi Luen Do)
 03/2021 MIT CSAIL, Boston (hosted by Arvind Satyanarayan)
 02/2021 Tsinghua University, Beijing (hosted by Zhicong Lu)
 12/2020 Tohoku University, Sendai (hosted by Yoshifumi Kitamura)
 05/2020 University of Calgary, Calgary (hosted by Ehud Sharlin)
 03/2020 Virginia Tech, Blacksburg (hosted by Doug Bowman)
 03/2020 UCSB, Santa Barbara (hosted by Misha Sra)
 02/2020 University of Washington, Seattle (hosted by Shyam Gollakota and Jon Froehlich)
 02/2020 Boston University, Boston (hosted by Emily Whiting)
 12/2019 CU Boulder ATLAS Seminar, Boulder (hosted by Ellen Do)
 11/2019 MIT CSAIL, Boston (hosted by Stefanie Mueller)
 11/2019 MIT Media Lab, Boston (hosted by Hiroshi Ishii)
 10/2019 University of Tokyo, Tokyo, Japan (hosted by Takeo Igarashi)
 10/2019 University of Tokyo, Tokyo, Japan (hosted by Jun Rekimoto)
 10/2019 JST ERATO, Tokyo, Japan (hosted by Yoshihiro Kawahara)
 10/2019 Takram, Tokyo, Japan (hosted by Hisato Ogata)
 10/2019 ZOZO Research, Tokyo, Japan (hosted by Satoshi Nakamaru)
 10/2019 Preferred Networks, Tokyo, Japan (hosted by Hironori Yoshida)
 10/2019 Omron ScinicX Research Lab, Tokyo, Japan (hosted by Yoshitaka Ushiku)
 06/2019 Adobe Research, Seattle (hosted by Wilmot Li)
 10/2018 CU Boulder ATLAS Seminar, Boulder (hosted by Mark Gross)
 06/2016 UC Berkeley BiD Seminar, Berkeley (hosted by Bjoern Hartmann)

Service

2023 – present **Subcommittee Chair**
 UIST 2023

2020 – present **Program Committee**

CHI 2022, 2023, 2024, 2025
UIST 2021, 2022, 2023, 2024
ISMAR 2021, 2022, 2023
VRST 2021, 2022
TEI 2021, 2022, 2023
DIS 2024
GI 2020

2021 – present **Journal Editorial Board**

ACM Transactions of Human-Robot Interaction
Frontiers in Virtual Reality Haptics

2023 – present **Workshop Organizers**

CHI 2025 - Everyday AR through AI-in-the-Loop Workshop
UIST 2023 - XR and AI: AI-Enabled Virtual, Augmented, and Mixed Reality Workshop

2016 – present **Organizing Committee**

UIST 2023 Demo Jury
UIST 2023 Program Committee Subcommittee Chair
CHI 2023 Student Research Competition Jury
UIST 2022 Student Innovation Contest Chair
UIST 2021 Student Innovation Contest Chair
CHI 2021 Social Media Chair
CHI 2021 Student Research Competition Jury
UIST 2016 Web and Social Media Chair

2016 – present **Reviewer**

CHI 2016 - 2025
UIST 2016 - 2024
IMWUT 2020 - 2022
CHI LBW 2018 - 2022
TEI 2018 - 2023
ISS 2021
ISMAR 2020 - 2022
VRST 2020 - 2022
CSCW 2021
TOCHI 2020
PACM 2021
DIS 2021 - 2022
C&C 2021
SUI 2022
ISS 2022
IEEE VR 2020, 2022 - 2023
HRI 2023
VL/HCC 2020
GI 2020
SCF 2019
SIGGRAPH ETech 2018 - 2021

Total about 200 reviews.

12 Special Recognitions for Outstanding Reviews at CHI/UIST

2021 – present **Session Chairs**

CHI 2022 - 2023
UIST 2021 - 2022

2016 – 2017 **Student Volunteer**

CHI 2017
UIST 2016

Academic Services within the University

2024 **Executive Committee**

University of Colorado Boulder, ATLAS Institute

2023 **Graduate Studies Scholarship Committee Reviewer**

University of Calgary, Department of Computer Science

2022 **Faculty Hiring External Committee**

University of Calgary, Department of Mechanical Engineering

2021 **Safety Committee**

University of Calgary, Department of Computer Science

2021 **Committee Member**

University of Calgary, Professional Master's Game Production & Immersive Tech Program

2021 **Faculty Hiring External Committee**

University of Calgary, Department of Electrical Software Engineering

References

- **Daniel Leithinger**
Design Tech Innovation Fellow
Cornell University, Department of Design Tech
daniel.leithinger@cornell.edu
- **Mark D. Gross**
Director
University of Colorado Boulder, ATLAS Institute
mdgross@colorado.edu
- **Hiroshi Ishii**
Jerome B. Wiesner Professor and Associate Director
MIT Media Lab
ishii@media.mit.edu
- **Takeo Igarashi**
Professor
University of Tokyo, Department of Computer Science
takeo@acm.org
- **Mar Gonzalez-Franco**
Research Scientist Manager
Google
margon@google.com
- **Rubaiat Habib**
Senior Research Scientist
Adobe Research
rhabib@adobe.com
- **Bjoern Hartmann**
Associate Professor
UC Berkeley, Department of Electrical Engineering and Computer Science
bjoern@eecs.berkeley.edu