MOSE SAKASHITA

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EDUCATION

Cornell University August 2018 - Present
A PhD candidate in Information Science
Advisor: Prof. François Guimbretière

University of Tsukuba April 2014 - March 2018
Bachelor of Science in Media Sciences and Engineering
College of Media Arts, Science and Technology

RESEARCH INTEREST

My research focus lies in the technical aspects of human-computer interaction (HCI) with an emphasis on designing interactive systems that enhance people's experiences in collaboration and design. My doctoral work focuses on the design and development of robotic telepresence systems that represent a remote collaborator through a robotic embodiment automatically controlled with non-verbal cues, aimed to better support remote collaboration in design activities. My prior work leverages a wide range of techniques in robotics, 3D/VR/AR techniques, and tangible interfaces.

RESEARCH EXPERIENCE

Cornell University 2018-Present
Advisor: François Guimbretière

Microsoft Research, Redmond, EPIC Group 2023 May-August
Mentor: Andy Willson, Bala Kumaravel, Nicolai Marquardt

Microsoft Research, Redmond, EPIC Group 2022 May-August
Mentor: Andy Willson

University of Tsukuba April 2015 - March 2018
Advisor: Yoichi Ochiai

PUBLICATIONS

Peer-Reviewed Conference Papers:

c.12 **Mose Sakashita**, Bala Kumaravel, Nicolai Marquardt, Andrew D. Wilson. SharedNeRF: Leveraging Photorealistic and View Dependent Rendering for Real-time and Remote Collaboration. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 14 pages. https: //doi.org/10.1145/3613904.3642945

c.11 Ke Li, Ruidong Zhang, Siyuan Chen, Boao Chen, **Mose Sakashita**, Francois Guimbretiere, Cheng Zhang. EyeEcho: Continuous and Low-power Facial Expression Tracking on Glasses. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA.

c.10 Chi-Jung Lee, Ruidong Zhang, Devansh Agarwal, Tianhong Catherine Yu, Vipin Gunda, Oliver Lopez, James Kim, Sicheng Yin, Boao Dong, Ke Li, **Mose Sakashita**, Francois Guimbretiere, Cheng Zhang.

EchoWrist: Continuous Hand Pose Tracking and Hand-Object Interaction Recognition Using Low-Power Active Acoustic Sensing On a Wristband. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA.

c.9 **Mose Sakashita**, Hyunju Kim, BrandonWoodard, Ruidong Zhang, and François Guimbretière. 2023. VRoxy: Wide-Area Collaboration From an Office Using a VR-Driven Robotic Proxy. In Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology (UIST '23). ACM, New York, NY, USA. DOI: https://doi.org/10.1145/3586183.3606743

c.8 **Mose Sakashita**, Xiaoyi Li, Ruidong Zhang, Hyunju Kim, Michael Russo, Malte F Jung, Cheng Zhang, François Guimbretière. 2023. ReMotion: Supporting Remote Collaboration in Open Space with Automatic Robotic Embodiment. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23), Hamburg, Germany, April 2023. DOI: https://doi.org/10.1145/3544548.3580699

c.7 **Mose Sakashita**, E. Andy Ricci, Jatin Arora, and François Guimbretière. 2022. RemoteCoDe: Robotic Embodiment for Enhancing Peripheral Awareness in Remote Collaboration Tasks. Proc. ACM Hum.-Comput. Interact. 6, CSCW1, Article 63 (April 2022), 22 pages. https://doi.org/10.1145/3512910

c.6 Lee, Wen-Ying, **Mose Sakashita**, Elizabeth Ricci, Houston Claure, Francois Guimbretiere, and Malte Jung. Interactive Vignettes: Enabling Large-Scale Interactive HRI Research. In 2021 30th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN), pp. 1289-1296. IEEE, 2021.

c.5 Tuochao Chen, Yaxuan Li, Songyun Tao, Hyunchul Lim, **Mose Sakashita**, Ruidong Zhang, Francois Guimbretiere, and Cheng Zhang. 2021. NeckFace: Continuously Tracking Full Facial Expressions on Neck-mounted Wearables. Proc. ACM Interact. Mob. Wearable Ubiquitous Technol. 5, 2, Article 58 (June 2021), 31 pages. DOI:https://doi.org/10.1145/3463511

c.4 Cheng Yao Wang, **Mose Sakashita**, Upol Ehsan, Jingjin Li, and Andrea Stevenson Won. 2020. Again, Together: Socially Reliving Virtual Reality Experiences When Separated. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI '20). Association for Computing Machinery, New York, NY, USA, 1–12. DOI:https://doi.org/10.1145/3313831.3376642

c.3 **Mose Sakashita**, Satoshi Hashizume, Yoichi Ochiai. (2019) Wrist-Mounted Haptic Feedback for Support of Virtual Reality in Combination with Electrical Muscle Stimulation and Hanger Reflex. In: Kurosu M. (eds) Human-Computer Interaction. Recognition and Interaction Technologies. HCII 2019. Lecture Notes in Computer Science, vol 11567. Springer, Cham. https://doi.org/10.1007/978-3-030-22643-5_43.

c.2 **Mose Sakashita**, Tatsuya Minagawa, Amy Koike, Ippei Suzuki, Keisuke Kawahara, and Yoichi Ochiai. 2017. You as a Puppet: Evaluation of Telepresence User Interface for Puppetry. In Proceedings of the 30th Annual ACM Symposium on User Interface Software and Technology (UIST '17). ACM, New York, NY, USA, 217-228. DOI: https://doi.org/10.1145/3126594.3126608

c.1 Ayaka Ebisu, Satoshi Hashizume, Kenta Suzuki, Akira Ishii, **Mose Sakashita**, and Yoichi Ochiai. 2017. Stimulated percussions: method to control human for learning music by using electrical muscle stimulation. In Proceedings of the 8th Augmented Human International Conference (AH '17). ACM, New York, NY, USA, Article 33, 5 pages. DOI: https://doi.org/10.1145/3041164.3041202

Posters:

p.4 Cheng-Yao Wang, **Mose Sakashita**, Upol Ehsan, Jingjin Li, and Andrea Stevenson Won. RelivelnVR:

Capturing and Reliving Virtual Reality Experiences Together. 2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR), Osaka, Japan, 2019, pp. 1217-1218, doi: 10.1109/VR.2019.8798363.

p.3 **Mose Sakashita**, Yuta Sato, Ayaka Ebisu, Keisuke Kawahara, Satoshi Hashizume, Naoya Muramatsu, and Yoichi Ochiai. 2017. Haptic marionette: wrist control technology combined with electrical muscle stimulation and hanger reflex. In SIGGRAPH Asia 2017 Posters (SA '17). ACM, New York, NY, USA, Article 33, 2 pages. DOI: https://doi.org/10.1145/3145690.3145743

p.2 Amy Koike, Satoshi Hashizume, Kazuki Takazawa, **Mose Sakashita**, Daitetsu Sato, Keisuke Kawahara, and Yoichi Ochiai. 2017. Digital fabrication and manipulation method for underwater display and entertainment. In ACM SIGGRAPH 2017 Posters (SIGGRAPH '17). ACM, New York, NY, USA, Article 76, 2 pages. DOI: https://doi.org/10.1145/3102163.3102226

p.1 Amy Koike, Satoshi Hashizume, **Mose Sakashita**, Yuki Kimura, Daitetsu Sato, Keita Kanai, and Yoichi Ochiai. 2016. Syringe-worked mermaid: computational fabrication and stabilization method for cartesian diver. In SIGGRAPH ASIA 2016 Posters (SA '16). ACM, New York, NY, USA, Article 35 , 2 pages. DOI:https://doi.org/10.1145/3005274.3005316

Demos:

d.3 **Mose Sakashita**, Kenta Suzuki, Keisuke Kawahara, Kazuki Takazawa, and Yoichi Ochiai. 2017. Materialization of motions: tangible representation of dance movements for learning and archiving. In ACM SIGGRAPH 2017 Studio (SIGGRAPH '17). ACM, New York, NY, USA, Article 7, 2 pages. DOI: https://doi.org/10.1145/3084863.3084869

d.2 Keisuke Kawahara, **Mose Sakashita**, Amy Koike, Ippei Suzuki, Kenta Suzuki, and Yoichi Ochiai. 2016. Transformed Human Presence for Puppetry. In Proceedings of the 13th International Conference on Advances in Computer Entertainment Technology (ACE2016). ACM, New York, NY, USA, Article 38 , 6 pages. DOI: https://doi.org/10.1145/3001773.3001813

d.1 **Mose Sakashita**, Keisuke Kawahara, Amy Koike, Kenta Suzuki, Ippei Suzuki, and Yoichi Ochiai. 2016. Yadori: mask-type user interface for manipulation of puppets. In ACM SIGGRAPH 2016 Emerging Technologies (SIGGRAPH '16). ACM, New York, NY, USA, Article 23 , 1 pages. DOI: http://dx.doi.org/10.1145/2929464.2929478

SELECTED MEDIA PRESS

2023/10	**Cornell Chronicle**, "Robot stand-in mimics your movements in VR"
2023/10	**Brown University**, "Researchers develop VR software to control a robot proxy through natural movements"
2023/10	**Tech Explore**, "Robot stand-in mimics your movements in VR"
2023/05	**Hackster.io**, "ReMotion Tracks a User's Face and Body to Drive a More Realistic Telepresence Robot Proxy"
2023/05	**Tech Explore**, "Robotic proxy brings remote users to life in real time"
2023/05	**Unite.AI**, "ReMotion: The New Robotic Telepresence by Cornell Researchers"
2023/05	**Cornell Chronicle**, "I, robot: Remote proxy collaborates on your behalf"
2020/04	**BuzzFeed News**, "A mysterious female governor who says "it's dense" in the game world. Flying in the sky to dissolve the dense group."
2020/04	**Gigazine**, "The Governor of Tokyo flies around like Superman and says "It's Dense"! to ensure social distance."
2020/04	**and engineer**, "Twitter 172,000RT The developer of "Mitsu desu 3D""

TEACHING EXPERIENCE

Spring 2021	**INFO4320: Introduction to Rapid Prototyping and Physical Computing** Information Science Department, Cornell University
Fall 2021	**INFO4320: Introduction to Rapid Prototyping and Physical Computing** Information Science Department, Cornell University

AWARDS AND HONORS

2024	**XR Collaboratory Prototyping Grant**, 50% of stipend and tuition
2021-2022	**Outstanding Teaching Awards**, Information Science, Cornell University
2019	IEEE VR 2019, **Best Poster Honorable Mention**
2018-2023	**The Nakajima Foundation**. Graduate Research Fellowship for Japanese. Including tuition up to JPY3,000,000 per year, and stipend of JPY200,000 per month.
2017	Japan Student Service Organization (JASSO) Excellence Student Award, **First Prize**.
2017	Asian CHI Symposium. **Best Demo/Poster Award 2nd Prize**.
2017	Advancing Researcher Experience (ARE), University of Tsukuba, **Excellence Award**.
2016	HackU Tsukuba 2015 Sponsored by Yahoo Japan, **Grand Prize**.

SERVICE/REVIEW

Conference Reviews	CHI 2024, CHI 2023, HRI 2023, UIST 2023, CSCW 2022, ISMAR 2022
Local Service	Information Science Graduate Students Association, Admission Committee, Cornell University, Information Science Department