Takeo Hamada, Ph.D

Interfaculty Initiative in Information Studies, The University of Tokyo
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Research Interests

XR, Human Augmentation, Virtual Embodiment, Behavioral Change, Positive Computing.

Education

2015	Ph.D in Engineering Tokyo Institute of Technology
2011	MA in Engineering Tokyo Institute of Technology
2009	BA in Engineering Chiba University

Professional Experience

2023–present	Project Associate Professor at Interfaculty Initiative in Information Studies, The University of Tokyo, Collaboration with Dr. Noboru Koshizuka
2020–2023	Project Lecturer at Interfaculty Initiative in Information Studies, The University of Tokyo, Collaboration with Dr. Noboru Koshizuka
2017–2020	Assistant Professor at Interfaculty Initiative in Information Studies, The University of Tokyo, Collaboration with Dr. Noboru Koshizuka
2017–2019	Research Advisor at H2L Inc., Collaboration with Dr. Emi Tamaki
2017–2019	Part-time Lecturer at Faculty of International Liberal Arts, Juntendo University
2016–2017	Post-Doc at Department of Computer Science and Engineering, Toyohashi University of Technology, Collaboration with Dr. Michiteru Kitazaki and Dr. Michio Okada
2011–2015	PhD student at Department of Information Processing, Tokyo Institute of Technology, Collaboration with Dr. Makoto Sato and Dr. Shoichi Hasegawa
2009–2011	Research Assistant at Group of Programming Home Robots, Japan Science and Technology Agency, ERATO IGARASHI Design Interface Project, Collaboration with Dr. Takeo Igarashi, Dr. Masahiko Inami, and Dr. Daisuke Sakamoto,

Teaching Experience

2024–present	Information, Undergraduate Students, The University of Tokyo
2017–present	Human-Computer Interaction, Undergraduate/Graduate Students, The University of Tokyo
2017–2019	Information and Communication Technology Literacy, Undergraduate Students, Juntendo University

Academic Services

Reviewer

Ubicomp/ISWC 2025

ISMAR 2025

ICAT-EGVE 2022

CHI 2022, 2026

IEEE Bigdata 2022, 2023, 2024, 2025

ISS (PACM-HCI) 2021

IEEE ACCESS 2019

VRST 2018

IPSJ Journal 2018, 2019

VRSJ Transaction 2019, 2022, 2025

HIS Transaction 2018, 2019

TRON Symposium (TRONSHOW) 2018

Organizer

IPSJ SIG-EC (Entertainment Computing): Steering Committee 2019-2022

IPSJ Interaction: Local Arrangement 2019-2022

VRSJ Annual Conference: Program Committee Chairs 2019

IEEE VR: Student Volunteers 2011

Honors and Awards

2025 | Honourable Mention Poster Award
The Augmented Humans (AHs) International Conference 2025

2024 | Best Paper Award
The 10th IEEE International Smart Cities Conference (ISC2 2024)

2023 | Best Paper Award
Technical Group on Media Experience and Virtual Environment, The Institute of Electronics, Information and Communication Engineers, JAPAN

2020 | Best Presentation, Audience Award Nominations
The ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubicomp 2020)

2018 | Best Paper Award
Technical Group on Media Experience and Virtual Environment, The Institute of Electronics, Information and Communication Engineers, JAPAN

2017 | Best Demo Award
The 8th Augmented Human International Conference (AH'17)

2010 | Excellence Award for Games, Apps, and Gadgets
The 8th Exhibition of The Society for Art and Science, JAPAN

Research Support

2019–2020 | Grant-in-Aid for Virtual Reality Educational Research
Funding Agency: Virtual Reality Educational Research Center, The University of Tokyo, JAPAN
Title: Exploring the Affordances of VR for Undergraduate Interaction Design Education
Role: CI
Amount: 400,000 JPY

2018–2022 | Grant-in-Aid for Young Scientists
Funding Agency: Japan Society for the Promotion of Science
Project number: 18K18137
Title: Impact of Virtual Companions Presented by Augmented Reality on Walking/Jogging Behavior
Role: PI
Amount: 3,200,000 JPY

2017–2018 | The INNO-vation Program for Disruptive Challenge
Funding Agency: Ministry of Internal Affairs and Communications, JAPAN
Title: Development of User Interface for Controlling a Bottom Wiper
Role: PI
Amount: 3,000,000 JPY

Language Skill

Japanese: Native
English: Intermediate

Peer-Reviewed Publications

Journal articles

[J.1] Shinji Tsuji, **Takeo Hamada**, Takashi Michikata, and Noboru Koshizuka. IgnitusTracker: Tracking Bee Flights for Assessing the Activity of Bombus Ignitus Towards Keeping Optimal Pollination Environments, In *IEEE Access*, 12, 35389-35398, 2024.
DOI: 10.1109/ACCESS.2024.3371989

[J.2] Ge Hangli, **Takeo Hamada**, Takahiro Sumitomo, and Noboru Koshizuka. Intellevator: An Intelligent Elevator System Proactive In Traffic Control for Time-efficiency Improvement, In *IEEE Access*, vol. 8, 35535-35545, 2020.
DOI: 10.1109/ACCESS.2020.2975020

[J.3] Ari Hautasaari, **Takeo Hamada**, Kuntaro Ishiyama, and Shogo Fukushima. VocaBura: A Method for Supporting Second Language Vocabulary Learning While Walking, In *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, vol.3 (4), article 135, 23 pages, 2019.
DOI: 10.1145/3369824
Ubicomp 2020 Best Presentation, Audience Award Nominations

[J.4] Michiteru Kitazaki, **Takeo Hamada**, Katsuya Yoshiho, Ryota Kondo, Tomohiro Amemiya, Koichi Hirota, and Yasushi Ikei. Virtual walking sensation by pre-recorded oscillating optic flow and synchronous foot vibration, *I-Perception*, 14 pages, 2019.
DOI: 10.1177/2041669519882448

[J.5] Satoshi Fujisawa, **Takeo Hamada**, Yasushi Ikei, and Michiteru Kitazaki: A Body Odyssey: Crawling into human digestive organs by visual, tactile and auditory sensations, In *Transactions of the Virtual Reality Society of Japan*, Vol.24, No.4, 337-340, 2019. (in Japanese)
DOI: 10.18974/tvrsj.24.4_337

[J.6] **Takeo Hamada**, Shohei Taniguchi, Sachiko Ikejima, Keisuke Shimizu, Daisuke Sakamoto, Shoichi Hasegawa, Masahiko Inami, Takeo Igarashi: Avatouch: A Puppet-based User Interface for Controlling A Robotic Massage Chair, In *Transactions of the Virtual Reality Society of Japan*, Vol.20, No.3, 229-238, 2015. (in Japanese)
DOI: 10.18974/tvrsj.20.3_229

Conference full papers

[C.1] Rin Sakamoto, Yuki Igeta, **Takeo Hamada**, Atsushi Deguchi, and Noboru Koshizuka. A Framework for Analyzing Urban Spaces from Pedestrian Perspectives: Integrating Micro-scale Trajectories with Digital Twins, The 11th IEEE International Smart Cities Conference (ISC2 2025), Greece, 2025. (to appear)

[C.2] Chisaki Hori, Rin Sakamoto, **Takeo Hamada**, and Noboru Koshizuka. Exploring Perceived Risk of Passing Sidewalk Mobility Using VR, The 11th IEEE International Smart Cities Conference (ISC2 2025), Greece, 2025. (to appear)

[C.3] Tatsuya Ishizuka, Masahiro Matsui, Yusuke Sasaki, **Takeo Hamada**, and Noboru Koshizuka. 3D Reconstruction and Instance Segmentation of Shiitake Mushrooms for Accurate Volume Estimation, The 11th IEEE International Smart Cities Conference (ISC2 2025), Greece, 2025. (to appear)

[C.4] Yusuke Sasaki, Tatsuya Ishizuka, Kyosuke Higuchi, Seiji Yoshida, **Takeo Hamada**, and Noboru Koshizuka. Agri-RAG: A Context-Aware Framework for Precision Agricultural Information Retrieval, The 11th IEEE International Smart Cities Conference (ISC2 2025), Greece, 2025. (to appear)

[C.5] Rin Sakamoto, Anna Yokokubo, **Takeo Hamada**, and Noboru Koshizuka. ScaleCity: Toolset for Constructing Urban Data Visualization Using 3D Printed Transparent City, The 10th IEEE International Smart Cities Conference (ISC2 2024), Thailand, 1-6, 2024.
DOI: 10.1109/ISC260477.2024.11004203
ISC2 2024 Best Paper Award

[C.6] Chisaki Hori, **Takeo Hamada**, Rin Sakamoto, Takashi Michikata, Anna Yokokubo, and Noboru Koshizuka. VR Pedestrian Simulation to Promote Understanding of Different Perspective for Implementing Walkable City, The 10th IEEE International Smart Cities Conference (ISC2 2024), Thailand, 1-6, 2024.
DOI: 10.1109/ISC260477.2024.11004237

[C.7] Yusuke Sasaki, Tatsuya Ishizuka, **Takeo Hamada**, and Noboru Koshizuka. Reconstruction of 3D Point Cloud of Entire Greenhouse using RGB-D Camera, The 10th IEEE International Smart Cities Conference (IEEE ISC2 2024), Thailand, 1-6, 2024.
DOI: 10.1109/ISC260477.2024.11004236

[C.8] Tatsuya Ishizuka, Yusuke Sasaki, **Takeo Hamada**, Yuki Shimazaki-Kishi, and Noboru Koshizuka. Eggplant Detection and Counting Across the Entire Greenhouse Using Deep Learning and Motion Parallax, The 10th IEEE International Smart Cities Conference (ISC2 2024), Thailand, 1-6, 2024.
DOI: 10.1109/ISC260477.2024.11004199

[C.9] Yusuke Sasaki, Tamae Itabashi, **Takeo Hamada**, and Noboru Koshizuka. Forecasting Insolation Shaded by Solar Panels for Optimal Layout in Agrivoltaic System. *In Proceedings of IEEE Global Conference on Consumer Electronics 2023 (GCCE 2023)*, Japan, 534-538, 2023.
DOI: 10.1109/GCCE59613.2023.10315657

[C.10] Shunya Taniguchi, Ge Hangli, **Takeo Hamada**, Takashi Michikata, and Noboru Koshizuka. Detecting Door Operations Using Wearable Devices. *In Proceedings of IEEE Global Conference on Consumer Electronics 2022 (GCCE 2022)*, Japan, 172-176, October 2022.
DOI: 10.1109/GCCE56475.2022.10014368

[C.11] **Takeo Hamada**, Ari Hautasaari, Michiteru Kitazaki, and Noboru Koshizuka. Solitary Jogging with A Virtual Runner using Smartglasses. *IEEE VR 2022 Papers*, Virtual, 644-654, March 2022.
DOI: 10.1109/VR51125.2022.00085

[C.12] Shogo Fukushima, **Takeo Hamada**, and Ari Hautasaari. Comparing World and Screen Coordinate Systems in Optical See-Through Head-Mounted Displays for Text Readability while Walking. *In Proceedings of IEEE International Symposium on Mixed and Augmented Reality 2020 (ISMAR 2020)*, Brazil, 649-658, November 2020.
DOI: 10.1109/ISMAR50242.2020.00093

[C.13] Slamet Kristanto Tirto Utomo, **Takeo Hamada**, and Noboru Koshizuka. Blockchain-Based Incentive System for Public Trash Bin. *In Proceedings of IEEE Global Conference on*

Consumer Electronics 2020 (GCCE 2020), Japan, 168-172, October 2020.
DOI: 10.1109/GCCE50665.2020.9291925

[C.14] Hangli Ge, **Takeo Hamada**, Takahiro Sumitomo, and Noboru Koshizuka. Intellevator: Enhancing Elevator System Efficiency by Proactive Computing on The Traffic Flow. In *Proceedings of the 2019 IEEE 1st Global Conference on Life Sciences and Technologies (LifeTech 2019)*, Japan, 80–84, March 2019.
DOI: 10.1109/LifeTech.2019.8884070

[C.15] Hangli Ge, **Takeo Hamada**, Takahiro Sumitomo, and Noboru Koshizuka. Intellevator: A Context-Aware Elevator System for Assisting Passengers. *IEEE 16th International Conference on Embedded and Ubiquitous Computing (EUC 2018)*, 81–88, Romania, October 2018.
DOI: 10.1109/EUC.2018.00019

[C.16] Hangli Ge, **Takeo Hamada**, Takahiro Sumitomo, and Noboru Koshizuka. PrecaElevator: Towards Zero-Waiting Time for Calling Elevator in Smart Building. *IEEE 7th Global Conference on Consumer Electronics (GCCE 2018)*, 566–570, Japan, October 2018.
DOI: 10.1109/GCCE.2018.8574706

[C.17] Hirotsugu Seike, **Takeo Hamada**, Takahiro Sumitomo, and Noboru Koshizuka. Blockchain-Based Ubiquitous Code Ownership Management System without Hierarchical Structure. *IEEE Smart World Congress (SmartWorld 2018)*, 271–276, China, October 2018.
DOI: 10.1109/SmartWorld.2018.00081

[C.18] Slamet Kristanto Tirto Utomo, **Takeo Hamada**, and Noboru Koshizuka. Low-Energy Smart Trash Bin Architecture for Dynamic Waste Collection System. *The 2nd International Conference on Future Networks and Distributed Systems (ICCFNDS'18)*, Jordan, June 2018.
DOI: 10.1145/3231053.3231077

[C.19] **Takeo Hamada**, Hironori Mitake, Shoichi Hasegawa, and Makoto Sato. A Teleoperated Bottom Wiper, In Proceedings of *the 6th Augmented Human International Conference (AH'15)*, 145–150 (2015.3).
DOI: 10.1145/2735711.2735794

[C.20] Katsuhito Akahane, **Takeo Hamada**, Takehiko Yamaguchi, and Makoto Sato. Development of a High Definition Haptic Rendering for Stability and Fidelity, In Proceedings of *the 14th international conference on Human-computer interaction (HCI'11)*, part 2, 3-12 (2011.7).
DOI: 10.1007/978-3-642-21605-3_1

Conference poster/demo papers

[P.1] **Takeo Hamada***, Anna Yokokubo*Tatsuya Ishizuka, Hiroaki Mori, and Noboru Koshizuka. Happiness Finder: Exploring User Experience in AI-Assisted Four-Leaf Clover Searches, *The International Conference on Artificial Reality and Telexistence & Eurographics Symposium on Virtual Environments 2025 Posters*, Karlskrona, Sweden, December 2025. (* equal contribution)
(to appear)

[P.2] Anna Yokokubo*, **Takeo Hamada***, Tatsuya Ishizuka, Hiroaki Mori, and Noboru Koshizuka. Happiness Finder: Exploring the Role of AI in Enhancing Well-Being During Four-Leaf Clover Searches, *The Augmented Humans (AHs) International Conference 2025 Posters*, Abu Dhabi, UAE, March 2025. (* equal contribution)
DOI: 10.1145/3745900.3747283
AHs25 Honourable Mention Poster Award

[P.3] **Takeo Hamada**, Yasuhira Chiba, JongMoon Choi, and Noboru Koshizuka. Finding Four-leaf Clovers while Supported by AI. *ACM SIGGRAPH ASIA 2020 Posters*, Korea, Article 6, 1–2, November 2020.
DOI: 10.1145/3415264.3425449

[P.4] **Takeo Hamada**, Ari Hautasaari, Michiteru Kitazaki, and Noboru Koshizuka. Exploring the Effects of a Virtual Companion on Solitary Jogging Experience. *In Proceedings of 2020 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, Atlanta, 639-640, GA, USA, March 2020.
DOI: 10.1109/VRW50115.2020.00170

[P.5] Yasuhira Chiba, JongMoon Choi, **Takeo Hamada**, and Noboru Koshizuka. Finding Four-leaf Clovers with AR and AI. *Demonstrations of the IEEE International Symposium on Mixed and Augmented Reality 2019 (ISMAR2019)*, China, October 2019.

[P.6] Shogo Fukushima, Ari Hautasaari, and **Takeo Hamada**. Second Language Vocabulary Learning While Walking. *In Proceedings of the 10th Augmented Human International Conference 2019 (AH2019)*, Article 44, 2 pages, France, March 2019.
DOI: 10.1145/3311823.3311866

[P.7] **Takeo Hamada**, Michiteru Kitazaki, and Noboru Koshizuka. Social Facilitation with Virtual Jogging Companion on Smartglasses. *ACM SIGGRAPH ASIA 2018 Posters*, 52, Japan, December 2018.
DOI: 10.1145/3283289.3283351

[P.8] Akira Fujiu, **Takeo Hamada**, Takahiro Sumitomo, and Noboru Koshizuka. CAACS: Context-Aware Access Control System for Physical Space in Smart Building. *2018 Global Internet of Things Summit (GIoTS'18)*, Spain, June 2018.
DOI: 10.1109/GIOTS.2018.8534535

[P.9] **Takeo Hamada**, Michio Okada, and Michiteru Kitazaki. Jogging with a Virtual Runner using a See-Through HMD. In Proceedings of *2017 IEEE Virtual Reality (VR)*, 445–446, Los Angeles, CA, USA, March 2017.
DOI: 10.1109/VR.2017.7892371

[P.10] Satoshi Fujisawa, **Takeo Hamada**, Ryota Kondo, Ryohei Okamoto, and Michiteru Kitazaki. A Body Odyssey: Exploring The Human Body as Digested Food, In Proceedings of *the 8th Augmented Human International Conference (AH'17)*, Silicon Valley, California, 39:1–39:2, March 2017.
DOI: 10.1145/3041164.3041209
AH17 Best Demo Award

[P.11] **Takeo Hamada**, Katsuya Yoshiho, Ryota Kondo, Yasushi Ikei, Koichi Hirota, Tomohiro Amemiya, and Michiteru Kitazaki. Changing Perceived Leg Length and Motion on Virtual Walking Generator, In Proceedings of the 23rd International Display Workshops in conjunction with Asia Display 2016 (IDW/AD '16), Japan, 3D2/3DSA2-3, 790–793, December 2016.

[P.12] **Takeo Hamada**, Katsuya Yoshiho, Ryota Kondo, Yasushi Ikei, Koichi Hirota, and Michiteru Kitazaki. Virtual Walking Generator by Rhythmical Modulation of Omnidirectional Images and Foot Sensations, *EuroHaptics 2016* Demonstrations, UK, July 2016.

[P.13] Koki Nagano, Takeru Utsugi, Mika Hirano, **Takeo Hamada**, Akihiko Shirai, and Masayuki Nakajima. A new multiplex content displaying system compatible with current 3D projection technology, In Proceedings of *ACM SIGGRAPH 2010* Posters, (2010.8).
DOI: 10.1145/1836845.1836931