Curriculum Vitae

Changyo Han

Ph.D. in Information Science and Technology

HCI Researcher

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Employment

2024 – · · · · **Project Lecturer**, The University of Tokyo

2021 – 2024 **Assistant Professor**, The University of Tokyo

2020 – 2021 **JSPS Postdoctoral Research Fellow**, The University of Tokyo

2019 – 2020 **JSPS Research Fellowship (DC2)**, The University of Tokyo

2013 – 2016 **Researcher**, Electronics and Telecommunications Research Institute (ETRI)

Education

2017 – 2020 **Ph.D. in Information Science and Technology, The University of Tokyo, Japan**
Thesis title: *Force Markers: Embossed Fiducials for Recognizing Physical Objects on Pressure-Sensitive Touch Surfaces.*

2011 – 2013 **M.E., The University of Tokyo, Japan**.

2007 – 2011 **B.E., Tokyo Institute of Technology, Japan**

Grants

2021–2025 **JSPS Grant-in-Aid for Early-Career Scientists**

2020–2023 **JST ACT-X Frontier of mathematics and information science**

2019–2021 **JSPS Research Fellowship for Young Scientists (DC2, PD)**

Skills

Design and prototyping	Fusion 360, Rhinoceros + Grasshopper, ROS2, Blender, 3D printing (FDM, SLA), Arduino.
Programming	Python, JavaScript, MATLAB, C++, Java.
RF simulation	ADS, AWR, HFSS.
RF measurement skills	Experience with Keysight, Tektronix, and R&S equipments.
Languages	Korean (native), English (fluent, TOEIC score: 970), Japanese (fluent, JLPT score: 180).

Honors and Awards

Fellowships

2019–2021 **JSPS Research Fellowship for Young Scientists (DC2)**

2017–2020 **Graduate Program for Social ICT Global Creative Leaders**, The University of Tokyo.

2012–2013 **Seiho scholarship**, Seiho scholarship foundation

2006–2011 **Japan-Korea Joint Program for Science and Engineering**,
Full government scholarship both from Korea and Japan.

Awards

2024 **h.a.n.d. Corporation Award**, EC 2024.

Excellent Teaser Video Award, EC 2024.

Interactive Demo Award (audience vote), IPSJ Interaction 2024.

Interactive Demo Award (audience vote), IPSJ Interaction 2024.

2023 **Best Poster Award**, IMPS 2023.

Interactive Presentation Award (audience vote), IPSJ Interaction 2023.

2022 **FIT Encouragement Award**, FIT 2022.

2021 **MVE Award**, IEICE MVE 2021.

CHI'21 People's Choice Best Demo Honorable Mention Award (2nd place), CHI 2021.

2020 **Honorable Mention Award** (top 5%), CHI 2020.

Interactive Demo Award (PC recommendation), IPSJ Interaction 2020.

Interactive Demo Award (audience vote), IPSJ Interaction 2020.

Best Paper Award (top 1 paper), TEI 2020.

Teaching Experience

Teaching Assistant

- 2011 Student experiment on optical communication, **The University of Tokyo**.
- Lectures on electromagnetism II, **The University of Tokyo**.

Mentoring

- 2024 **Yuchi Yahagi**, PhD thesis.
- **Taichi Morimura, Yasunori Akashi**, Master thesis.
- **Ryoma Kanai, Keita Inoue**, Bachelor thesis.
- 2023 **Yuki Kakui, Yosuke Nakagawa**, Master thesis.
- **Yasunori Akashi**, Bachelor thesis.
- 2022 **Yuchi Yahagi**, Master thesis.
- **Minami Aramaki, Kota Araki**, Bachelor thesis.
- 2021 **Ikuo Kamei**, Master thesis.
- **Yuki Kakui, Ryotaro Tanaka**, Bachelor thesis.
- 2020 **Ryo Takahashi**, Master thesis.
- **Yuchi Yahagi**, Bachelor thesis.
- 2018 **Saho Yamaguchi**, Bachelor thesis.

Academic Service

Organizer

- Secretary Member: Virtual Reality Society in Japan Art+Entertainment Committee
- Conferences: VRST '22 Local Arrangements/Online Chair, TEI '23 Associate Chair

Reviewer

- CHI '21–24, VRST '21, UIST '20, TEI '20-23, DIS '24, SCF '23, SIGGRAPH Asia '24, MobileHCI '21, Audio Mostly '20
- Journals: Trans. HI Society, IEEE/Optica JOCN, IEEE/Optica Optics Express, Trans. VRSJ

Miscellaneous Experience

Social Contribution

2019 – · · · · **Our Shurijo: Shuri Castle Digital Reconstruction Project**, Member, https://our-shurijo.org.

Publications

Journal Articles

1. Yuki Kakui, Kota Araki, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. "Robust Recognition of Imperceptible QR Codes in Videos with a Dual-Camera Smartphone". In: *ITE Transactions on Media Technology and Applications* (Dec. 2024).

2. Yuchi Yahagi, Rintaro Chujo, Yuga Harada, **Changyo Han**, Kohei Sugiyama, and Takeshi Naemura. "PaperWave: Listening to Research Papers as Conversational Podcasts Scripted by LLM". In: *arXiv preprint* 1.1 (Oct. 2024), pp. 1–15. arXiv: 2410.15023.

3. Yu Shimada, **Changyo Han**, Ari Hautasaari, and Takeshi Naemura. "A Plane-Assisted Method for Efficient 3D Arrangement of Computer-Generated Objects". In: *The Journal of The Institute of Image Information and Television Engineers* 78.5 (Sept. 2024), pp. 592–597. DOI: 10.3169/itej.78.592.

4. Kota Araki, Yuki Kakui, Ryotaro Tanaka, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. "A Color Vibration Method Robust to Interframe Difference for Embedding Imperceptible Markers in Videos". In: *The Journal of The Institute of Image Information and Television Engineers* 77.1 (2023), pp. 141–148. DOI: 10.3169/itej.77.141.

5. Hwajin Lim and **Changyo Han**. "National borders transcended : the impact of geographical proximity on the growth of global innovation networks among cities in East Asia proximity on the growth of global innovation networks". In: *International Journal of Urban Sciences* 0.0 (2021), pp. 1–29. DOI: 10.1080/12265934.2021.1915854.

6. **Changyo Han** and Takeshi Naemura. "BumpMarker: a 3D-printed tangible marker for simultaneous tagging, tracking, and weight measurement". In: *ITE Transactions on Media Technology and Applications* 7.1 (Jan. 2019), pp. 11–19. DOI: 10.3169/mta.7.11.

7. **Changyo Han**, Minkyu Sung, Seung-Hyun Cho, Hwan Seok Chung, Sun Me Kim, and Jong Hyun Lee. "Performance Improvement of Multi-IFoF-Based Mobile Fronthaul Using Dispersion-Induced Distortion Mitigation With IF Optimization". In: *Journal of Lightwave Technology* 34.20 (Oct. 2016), pp. 4772–4778. DOI: 10.1109/JLT.2016.2561297.

8. **Changyo Han**, Seung-Hyun Cho, Minkyu Sung, Hwan Seok Chung, and Jong Hyun Lee. "Clipping Distortion Suppression of Directly Modulated Multi-IF-over-Fiber Mobile Fronthaul Links Using Shunt Diode Predistorter". In: *ETRI Journal* 38.2 (Apr. 2016), pp. 227–234. DOI: 10.4218/etrij.16.2515.0038.

9. Seung-Hyun Cho, **Changyo Han**, Hwan Seok Chung, and Jong Hyun Lee. "Demonstration of Mobile Fronthaul Test Bed Based on RoF Technology Supporting Two Frequency Assignments and 2x2 MIMO Antennas". In: *ETRI Journal* 37.6 (Dec. 2015), pp. 1055–1064. DOI: 10.4218/etrij.15.0115.0146.

10. Minkyu Sung, **Changyo Han**, Seung-Hyun Cho, Hwan Seok Chung, and Jong Hyun Lee. "Improvement of the transmission performance in multi-IF-over-fiber mobile fronthaul by using tone-reservation technique". In: *Optics Express* 23.23 (Nov. 2015), p. 29615. DOI: 10.1364/OE.23.029615.

11. Sun Hyok Chang, Hwan Seok Chung, Roland Ryf, Nicolas K. Fontaine, **Changyo Han**, Kyung Jun Park, Kwangjoon Kim, Jyung Chan Lee, Jong Hyun Lee, Byoung Yoon Kim, and Young Kie Kim. "Mode- and wavelength-division multiplexed transmission using all-fiber mode multiplexer based on mode selective couplers". In: *Optics Express* 23.6 (Mar. 2015), p. 7164. DOI: 10.1364/OE.23.007164.

International Conference Proceedings

1. Yasunori Akashi, **Changyo Han**, and Takeshi Naemura. "MMM: Mid-air image Moving in and out of the Mirror with backward glance in the mirror". In: *SIGGRAPH Asia 2024 Posters*. Dec. 2024.

2. Yuta Kibayashi, Kota Araki, Yasunori Akashi, **Changyo Han**, and Takeshi Naemura. "Quadrature Color Vibration Method for Improving Robustness of Imperceptible Markers Embedded in Video". In: *2024 IEEE International Conference on Visual Communications and Image Processing (VCIP)*. Dec. 2024, p. 182.

3. Takafumi Morita, Rei Sakura, Kanon Aoyama, Tomomi Imamura, **Changyo Han**, and Yasuaki Kakehi. "Design and Fabrication for Dynamic Color-Changing on Curved 3D-Printed Surfaces". In: *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*. New York, NY, USA: ACM, May 2024, pp. 1–7. DOI: 10.1145/3613905.3650742.

4. **Changyo Han**, Yosuke Nakagawa, and Takeshi Naemura. "Demonstrating Swarm Robots Capable of Cooperative Transitioning between Table and Wall". In: *Adjunct Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology*. New York, NY, USA: ACM, Oct. 2023, pp. 1–4. DOI: 10.1145/3586182.3615763.

5. Rei Sakura, **Changyo Han**, Yahui Lyu, Keisuke Watanabe, Ryosuke Yamamura, and Yasuaki Kakehi. "LattiSense: A 3D-Printable Resistive Deformation Sensor with Lattice Structures". In: *Proceedings of the 8th ACM Symposium on Computational Fabrication*. New York, NY, USA: ACM, Oct. 2023, pp. 1–14. DOI: 10.1145/3623263.3623361.

6. Qunchao Zhou, Takuya Sasatani, **Changyo Han**, and Yoshihiro Kawahara. "Simultaneous Wireless Information and Power Transfer Technique Using Frequency-Modulated DC/DC Converters". In: *Asian Wireless Power Transfer Workshop (AWPT 2022)*. Kyoto, Dec. 2022, TU–4–O4.

7. Rei Sakura, **Changyo Han**, Keisuke Watanabe, Ryosuke Yamamura, and Yasuaki Kakehi. "Design of 3D-Printed Soft Sensors for Wire Management and Customized Softness". In: *CHI Conference on Human Factors in Computing Systems Extended Abstracts*. New York, NY, USA: ACM, Apr. 2022, pp. 1–5. DOI: 10.1145/3491101.3519906.

8. Yuki Kakui, Kota Araki, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. "Using a Dual-Camera Smartphone to Recognize Imperceptible 2D Barcodes Embedded in Videos". In: *Adjunct*

Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology. UIST '22 Adjunct. New York, NY, USA: Association for Computing Machinery, 2022. DOI: 10.1145/3526114.3558672.

9. **Changyo Han**, Ryo Takahashi, Yuchi Yahagi, and Takeshi Naemura. "3D Printing Firm Inflatables with Internal Tethers". In: *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems*. New York, NY, USA: ACM, May 2021, pp. 1–7. DOI: 10.1145/3411763.3451613.

10. Ikuo Kamei, **Changyo Han**, Takefumi Hiraki, Shogo Fukushima, and Takeshi Naemura. "CoVR: Co-located Virtual Reality Experience Sharing for Facilitating Joint Attention via Projected View of HMD Users". In: *SIGGRAPH Asia 2020 Emerging Technologies*. New York, NY, USA: ACM, Dec. 2020, pp. 1–2. DOI: 10.1145/3415255.3422883.

11. Ryo Takahashi, Masaaki Fukumoto, **Changyo Han**, Takuya Sasatani, Yoshiaki Narusue, and Yoshihiro Kawahara. "TelemetRing: A Batteryless and Wireless Ring-shaped Keyboard using Passive Inductive Telemetry". In: *Proceedings of the 33rd Annual ACM Symposium on User Interface Software and Technology*. New York, NY, USA: ACM, Oct. 2020, pp. 1161–1168. DOI: 10.1145/3379337.3415873.

12. **Changyo Han**, Katsufumi Matsui, and Takeshi Naemura. "ForceStamps: Fiducial Markers for Pressure-sensitive Touch Surfaces to Support Rapid Prototyping of Physical Control Interfaces". In: *Proceedings of the Fourteenth International Conference on Tangible, Embedded, and Embodied Interaction - TEI '20*. New York, NY, USA: ACM, 2020, pp. 273–285. DOI: 10.1145/3374920.3374924.

13. **Changyo Han**, Ryo Takahashi, Yuchi Yahagi, and Takeshi Naemura. "PneuModule: Using Inflatable Pin Arrays for Reconfigurable Physical Controls on Pressure-Sensitive Touch Surfaces". In: *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems - CHI '20*. New York, NY, USA: ACM, 2020, pp. 1–14. DOI: 10.1145/3313831.3376838.

14. Keisuke Shiro, Ryotaro Miura, **Changyo Han**, and Jun Rekimoto. "An Intuitive Interface for Digital Synthesizer by Pseudo-intention Learning". In: *Proceedings of the 14th International Audio Mostly Conference: A Journey in Sound - AM '19*. New York, NY, USA: ACM, Sept. 2019, pp. 39–44. DOI: 10.1145/3356590.3356598.

15. Seung-Hyun Cho, **Changyo Han**, Minkyu Sung, Hwan Seok Chung, Sun Me Kim, and Jong Hyun Lee. "Experimental Investigations of Uplink Transmission Performances in a Mobile Fronthaul based on IFoF Technique". In: *International Conference on Information and Communication Technology Convergence (ICTC 2016)*. IEEE, Oct. 2016, pp. 772–774. DOI: 10.1109/ICTC.2016.7763292.

16. Minkyu Sung, **Changyo Han**, Seung-Hyun Cho, Hwan Seok Chung, Sun Me Kim, and Jong Hyun Lee. "Bandwidth Efficient Transmission of 96 LTE-A Signals with 118-Gb/s CPRI-Equivalent Rate using 2-GHz Frequency Span and Intermixing Mitigation for Mobile Fronthaul". In: *International Conference on Information and Communication Technology Convergence (ICTC 2016)*. IEEE, Oct. 2016, pp. 775–777. DOI: 10.1109/ICTC.2016.7763293.

17. **Changyo Han**, Minkyu Sung, Seung-Hyun Cho, Hwan Seok Chung, Sun Me Kim, and Jong Hyun Lee. "Impact of Dispersion-Induced Second-Order Distortion in Multi-IFoF-based Mobile Fronthaul Link

for C-RAN". In: *Optical Fiber Communication Conference (OFC 2016)*. Washington, D.C.: OSA, 2016, Tu2B.4. DOI: 10.1364/OFC.2016.Tu2B.4.

18. **Changyo Han**, Seung-Hyun Cho, Hwan Seok Chung, and Jong Hyun Lee. "Linearity Improvement of Directly-Modulated Multi-IF-over-Fibre LTE-A Mobile Fronthaul Link Using Shunt Diode Predistorter". In: *European Conference on Optical Communication (ECOC 2015)*. IEEE, Sept. 2015, pp. 1–3. DOI: 10.1109/ECOC.2015.7342016.

19. Seung-Hyun Cho, Hwan Seok Chung, **Changyo Han**, Sangsoo Lee, and Jong Hyun Lee. "Experimental Demonstrations of Next Generation Cost-Effective Mobile Fronthaul with IFoF technique". In: *Optical Fiber Communication Conference (OFC 2015)*. Washington, D.C.: OSA, 2015, M2J.5. DOI: 10.1364/OFC.2015.M2J.5.

20. **Changyo Han**, Seung-Hyun Cho, Hwan Seok Chung, Sangsoo Lee, and Jong Hyun Lee. "Experimental Comparison of the Multi-IF Carrier Generation Methods in IF-over-Fiber System Using LTE Signals". In: *2014 International Topical Meeting on Microwave Photonics and the 2014 9th Asia-Pacific Microwave Photonics Conference (MWP/APMP 2014)*. IEEE, Oct. 2014, pp. 311–314. DOI: 10.1109/MWP.2014.6994561.

21. Seung-Hyun Cho, Hwan Seok Chung, **Changyo Han**, Sangsoo Lee, and Jong Hyun Lee. "Investigaitons of EVM Performance Degradations caused by Nonlienarity in Mobile Fronthaul Architecture based on IFoF technology". In: *12th International Conference on Optical Internet (COIN 2014)*. IEEE, Aug. 2014, pp. 1–2. DOI: 10.1109/COIN.2014.6950590.

22. **Changyo Han**, Hwan Seok Chung, Sun Hyok Chang, Kwangjoon Kim, and Jong Hyun Lee. "Effect of rotational misalignment in phase-plate based mode multiplexer". In: *12th International Conference on Optical Internet (COIN 2014)*. IEEE, Aug. 2014, pp. 1–2. DOI: 10.1109/COIN.2014.6950625.

23. Hwan Seok Chung, Seung-Hyun Cho, **Changyo Han**, Sangsoo Lee, Jyung Chan Lee, and Jong Hyun Lee. "Design of RoF based Mobile Fronthaul Link with Multi-IF Carrier for LTE/LTE-A Signal Transmission". In: *2014 International Topical Meeting on Microwave Photonics and the 2014 9th Asia-Pacific Microwave Photonics Conference (MWP/APMP 2014)*. IEEE, 2014, pp. 303–306. DOI: 10.1109/MWP.2014.6994559.

24. **Changyo Han**, Koji Igarashi, and Kazuro Kikuchi. "Influence of Channel Misalignment of Time-interleaved DAC on Sensitivity Degradation in Coherent Optical Receivers". In: *Optical Fiber Communication Conference (OFC 2013)*. Washington, D.C.: OSA, 2013, OTh1F.2. DOI: 10.1364/OFC.2013.OTh1F.2.

25. Hongbo Lu, Kazuro Kikuchi, **Changyo Han**, and Yojiro Mori. "Novel Polarization-diversity Scheme Based on Mutual Phase Conjugation for Fiber-nonlinearity Mitigation in Ultra-long Coherent Optical Transmission Systems". In: *European Conference and Exhibition on Optical Communication (ECOC 2013)*. IET, 2013, pp. 522–524. DOI: 10.1049/cp.2013.1447.

26. Yojiro Mori, **Changyo Han**, Hongbo Lu, and Kazuro Kikuchi. "Wavelength Demultiplexing of Nyquist WDM Signals under Large Frequency Offsets in Digital Coherent Receivers". In: *European Conference*

and Exhibition on Optical Communication (ECOC 2013). IET, 2013, pp. 122–124. DOI: 10.1049/cp.2013.1313.

27. Ryo Minami, **Changyo Han**, Kota Matsushita, Kenichi Okada, and Akira Matsuzawa. "Effect of Transmission Line Modeling Using Different De-embedding Methods". In: *European Microwave Conference 2011*. IEEE, 2011, pp. 381–384. DOI: 10.23919/EuMC.2011.6101839.

28. Yuki Tsukui, Hiroki Asada, **Changyo Han**, Kenichi Okada, and Akira Matsuzawa. "Area Reduction of Millimeter-Wave CMOS Amplifier Using Narrow Transmission Line". In: *Asia-Pacific Microwave Conference (APMC 2011)*. IEEE, 2011, pp. 797–800.

Patents

1. Ryosuke Yamamura, Yasuaki Kakehi, **Changyo Han**, Rei Sakura, and Keisuke Watanabe. "Sensor and sensor manufacturing method". 2023.

2. Seung-Hyun Cho, Jong Hyun Lee, Hwan Seok Chung, and **Changyo Han**. "Apparatuses and methods for transmitting and receiving control signal in analog radio-over-fiber (ROF)-based mobile fronthaul". 2018.

3. **Changyo Han**, Minkyu Sung, Jong Hyun Lee, Hwan Seok Chung, and Seung-Hyun Cho. "Optical signal transmission system and method of allocating center frequencies of intermediate frequency (IF) carriers for frequency division multiplexing (FDM) optical fiber link". 2018.

4. Sang Rok Moon and **Changyo Han**. "Mode-multiplexing control method, and transmission apparatus and reception apparatus for the same". 2018.

5. Minkyu Sung, Jong Hyun Lee, Hwan Seok Chung, Seung-Hyun Cho, and **Changyo Han**. "Analog optical transmission system using dispersion management technique". 2018.

6. Sun Hyok Chang, Kwangjoon Kim, Hyun Jae Lee, and **Changyo Han**. "Mode division multiplexed passive optical network (MDM-PON) apparatus, and transmission and reception method using the same". 2017.

7. Hwan Seok Chung, Seung-Hyun Cho, Jong Hyun Lee, Sangsoo Lee, and **Changyo Han**. "Control apparatus and method for monitoring optical fiber link". 2017.

Domestic Conference Proceedings

1. Yuchi Yahagi, Rintaro Chujo, Yuga Harada, **Changyo Han**, Kohei Sugiyama, and Takeshi Naemura. "Developing PaperWave: A System for Adapting Research Papers into Conversational Podcasts with LLMs". In: *HCG シンポジウム 2024*. Dec. 2024, pp. 1–8.

2. Ryo Takahashi, Akihito Noda, **Changyo Han**, Tomoyuki Yokota, Takao Someya, and Yoshihiro Kawahara. "Design of full-body wireless charging and communication clothing for medical digital twin". In: 革新的無線通信技術に関する横断型研究会 *(MIKA)*. Oct. 2024.

3. Yasunori Akashi, **Changyo Han**, and Takeshi Naemura. "空中像光学系の水平視域拡大のための対称ミラー構造の設計 ". In: バーチャルリアリティ学会大会 *2024*. Sept. 2024, 2E2–02.

4. Taichi Moriumura, **Changyo Han**, and Takeshi Naemura. “corobos plus: 卓上・壁面・天井の間を移行する群ロボット”. In: インタラクション *2024*. Mar. 2024, 1A11.

5. Yuchi Yahagi, Daisuke Kuramoto, **Changyo Han**, and Takeshi Naemura. “空中像をつくるワークショップにおいて参加者が直面する困難についての探索的検討”. In: 日本教育工学会全国大会. Mar. 2024, 3–S06B2.

6. Ayako Yogo, Daisuke Kuramoto, **Changyo Han**, and Takeshi Naemura. “AIR-range Plus：テーブル上を動き回る複数の空中像とのインタラクション”. In: インタラクション *2024*. Mar. 2024, p. 1C65.

7. Ryoma Kanai, Yuta Kibayashi, Yasunori Akashi, **Changyo Han**, and Takeshi Naemura. “Extending Luminance Range and Maintaining Decoding Rate for Imperceptible Markers by Quadrature Color Vibration”. In: 映像メディア処理シンポジウム *(IMPS 2024)*. 2024.

8. Taichi Moriumura, **Changyo Han**, and Takeshi Naemura. “corobos plus におけるエンタテインメントコンテンツのデザイン”. In: エンタテインメントコンピューティングシンポジウム *2024* 論文集. 2024, pp. 505–509.

9. Ayako Yogo, Daisuke Kuramoto, **Changyo Han**, and Takeshi Naemura. “机上を動き回る複数の空中像のインタラクティブシステム AIR-range Plus の基礎検討”. In: 映像情報メディア学会冬季大会 *2023*. Dec. 2023, pp. 21C–2.

10. Yuta Kibayashi, Kota Araki, **Changyo Han**, and Takeshi Naemura. “直交色振動不可視マーカにおける軟判定復号法の基礎検討”. In: 映像メディア処理シンポジウム *(IMPS 2023)*. Nov. 2023, P2–07.

11. Yasunori Akashi, **Changyo Han**, and Takeshi Naemura. “鏡に映り込む空中像と鏡に吸い込まれる空中像”. In: *VR* 大会 *2023*. Sept. 2023, pp. 1C2–02.

12. Yu Shimada, **Changyo Han**, Ari Hautasaari, and Takeshi Naemura. “CG オブジェクトの効率的配置のためのデスクトップ 3D インタフェースの開発”. In: 映像情報メディア学会冬季大会. Aug. 2023, pp. 22C–4.

13. Yasunori Akashi, Ayako Yogo, **Changyo Han**, and Takeshi Naemura. “再帰透過式空中像に対するプリズムシートを用いた迷光低減”. In: *3* 次元画像コンファレンス. July 2023, P–4.

14. Kazuki Usui and Yuki Kakui. “可視光通信プロジェクタにおける輝度に応じたデータ表現による高コントラスト化”. In: *MVE2023*. May 2023.

15. Yousuke Nakagawa, **Changyo Han**, and Takeshi Naemura. “卓上と壁の間を移行する群ロボット corobos におけるアタッチメントの改良”. In: インタラクション *2023*. Mar. 2023, 1B–46.

16. Yasunori Akashi, Ayako Yogo, **Changyo Han**, and Takeshi Naemura. “再帰透過光学素子による空中像に対する最適な鑑賞方向の変換”. In: 映像情報メディア学会冬季大会 *2022*. 2022, p. 13C02.

17. Minami Aramaki, Ari Hautasaari, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. “モード選択と手指動作入力を用いた対話的なアバターのモーション制御”. In: *MVE2022*. 2022, 信学技報, vol. 122, no. 74, MVE2022–2, pp. 7––12.

18. Yuki Kakui, Kota Araki, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. “動画に重畳した不可視マーカの頑健な認識 デュアルカメラによる同時撮影 ”. In: 第 *21* 回情報科学技術フォーラム *(FIT2022)*. 2022, K–020.

19. Yousuke Nakagawa, **Changyo Han**, and Takeshi Naemura. “corobos: 卓上と壁の間を移行する群ロボット ”. In: エンタテインメントコンピューティング *2022*. 2022, pp. 106–109.

20. Yuchi Yahagi, Katsufumi Matsui, Ari Hautasaari, **Changyo Han**, Naho Tomiki, and Takeshi Naemura. “遠隔の初学者と経験者が共同で電子工作を行う製作ツールの提案 ”. In: インタラクション *2022*. 2022, pp. 5D–05.

21. Kota Araki, Ryotaro Tanaka, Yuki Kakui, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. “動画像に不可視マーカを埋め込むためのフレーム間差分に頑健な色振動方式の基礎検討 ”. In: 映像メディア処理シンポジウム *(IMPS 2021)*. 2021, P2–21.

22. Yuki Kakui, Ikuo Kamei, Ken Takaki, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. “可視光通信プロジェクタの高画質化のための光源制御による輝度補正 ”. In: *MVE2021*. 2021, vol. 121, no. 53, MVE2021–2, pp. 7––12.

23. Ryotaro Tanaka, Ikuo Kamei, Ken Takaki, **Changyo Han**, Shogo Fukushima, and Takeshi Naemura. “映像における色振動方式不可視マーカの読み取り可能距離の拡張 ”. In: *MVE2021*. 2021, vol. 121, no. 53, MVE2021–1, pp. 1––6.

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