Shin Katayama / 片山 晋

Doctor of Engineering

Project Assistant Professor, Nagoya University

Shin Katayama is a Project Assistant Professor at the Graduate School of Engineering, Nagoya University. He earned his Doctor of Engineering from Nagoya University (2023), Master of Media and Governance from Keio University (2020), and Bachelor of Arts in Environmental Information from Keio University (2018). He is a member of ACM and the Information Processing Society of Japan (IPSJ). His research interests are Affective Computing, Human-Computer Interaction, and Digital Healthcare.

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Experience

- Apr 2023 – Present **Nagoya University** Project Assistant Professor
- Oct 2020 – May 2021 **CyberAgent, Inc. AI Lab** Ph.D. Research Internship
- Jan 2019 – Mar 2019 **Nokia Bell Labs, Cambridge, UK** Visiting Researcher
- Oct 2017 – Jan 2019 **GROOVE X, Inc.** Software Engineer Internship

Education

- Apr 2020 – Mar 2023 **Nagoya University**

  Doctor of Engineering Supervisor: Prof. Nobuo Kawaguchi

- Apr 2018 – Mar 2020 **Keio University**

  Master of Media and Governance Supervisor: Prof. Jin Nakazawa

- Apr 2014 – Mar 2018 **Keio University**

  Bachelor of Arts in Environmental Information Supervisor: Prof. Hideyuki Tokuda

Publications

Journal Papers:

1. **ER-Chat: A Text-to-Text Open-Domain Dialogue Framework for Emotion Regulation** Impact Factor: 13.99

   Shin Katayama, Shunsuke Aoki, Takuro Yonezawa, Tadashi Okoshi, Jin Nakazawa and Nobuo Kawaguchi

   IEEE Transactions of Affective Computing

2. **Response Generation for Text-Based Dialogue Systems with Emotion Regulation**

   Shin Katayama, Takuro Yonezawa, Nobuo Kawaguchi

   Journal of Japan Society for Fuzzy Theory and Intelligent Informatics (in Japanese)

International Conference Papers:

1. **Efficient Edge AI based Annotation and Detection Framework for Logistics Warehouses with Large Scale Camera Arrays**

   Yuki Mori, Yusuke Asai, Keisuke Higashiura, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   IEEE Consumer Communications & Networking Conference 2025

2. **Additive Compositionality in Urban Area Embeddings Based on Human Mobility Patterns**

   Naoki Tamura, Haru Terashima, Kazuyuki Shoji, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   ACM SIGSPATIAL 2024

3. **Unveiling Human Attributes through Life Pattern Clustering using GPS Data Only**

   Kazuyuki Shoji, Haru Terashima, Naoki Tamura, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   ACM SIGSPATIAL 2024

4. **Time-series Stay Frequency for Multi-City Next Location Prediction using Multiple BERTs**   Grand Winner

   Haru Terashima, Shun Takagi, Naoki Tamura, Kazuyuki Shoji, Tahera Hossain, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   ACM SIGSPATIAL Human Mobility Prediction Challenge Workshop 2024

5. **Enhancing Group Telepresence Interaction through Seamless Inverse Panorama Projection on Spherical Display**

   Nozomi Hayashida, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   UbiComp '24: Companion of the 2024 ACM International Joint Conference on Pervasive and Ubiquitous Computing

6. **Composite Image Generation Using Labeled Segments for Pattern-Rich Dataset without Unannotated Target**

   Kazuma Kano, Yuki Mori, Keisuke Higashiura, Tahera Hossain, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   HASCA 2024 (co-located with UbiComp / ISWC 2024)

7. **Poster: Sustainable Data Management Platform for Spatio-Temporal Datasets**

   Yoshiteru Nagata, Daiki Kohama, Yoshiki Watanabe, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   ACM MobiSys 2024 Poster

8. **Demo: Assisting System for Creating Ceiling Plan Using a Video from a Smartphone**

   Daiki Kohama, Yoshiteru Nagata, Kazushige Yasutake, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

   ACM MobiSys 2024 Demo

9. **Balancing Excitement and Environmental Conservation in Information Dissemination for Safari Game Drives**

   Kaiya Shimura, Shin Katayama, Kenta Urano, Emanuel Leleito, Takuro Yonezawa, Nobuo Kawaguchi

   26th HCI International Conference, HCII 2024

10. **Towards a Real-Time and Energy-Efficient Edge AI Camera Architecture in Mega Warehouse Environment**

    Yusuke Asai, Yuki Mori, Keisuke Higashiura, Kodai Yokoyama, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    RAGE 2024 @ CPS-IOT WEEK 2024 – The 3rd Real-time and intelliGent Edge Computing Workshop

11. **Semi-Automated Framework for Digitalizing Multi-Product Warehouses with Large Scale Camera Arrays**

    Keisuke Higashiura, Kodai Yokoyama, Yusuke Asai, Hironori Shimosato, Kazuma Kano, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    The 22nd IEEE International Conference on Pervasive Computing and Communications (PerCom 2024)

12. **Panoramic Ceiling Image Synthesis Method Prioritizing Fixture Outlines Using an Omnidirectional Camera** Best Paper Award

    Daiki Kohama, Yoshiteru Nagata, Kazushige Yasutake, Kenta Urano, Shin Katayama, Takuro Yonezawa, Nobuo Kawaguchi

    The 14th International Conference on Mobile Computing and Ubiquitous Networking (ICMU 2023)

13. **Human Mobility Prediction Challenge: Next Location Prediction using Spatiotemporal BERT** Grand Winner

    Haru Terashima, Naoki Tamura, Kazuyuki Shoji, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    ACM SIGSPATIAL 2023 Workshop – The Human Mobility Prediction Challenge (HuMob Challenge) 2023

14. **360 Robot Hand Interaction for Group Telepresence with MetaPo** Best Demo Award

    Yoshiki Watanabe, Nozomi Hayashida, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    The 13th International Conference on the Internet of Things (IoT 2023)

15. **Wildlife Spotting and Sharing System for Kenyan Safari Game Drives**

    Kaiya Shimura, Shin Katayama, Kenta Urano, Emanuel Leleito, Takuro Yonezawa, Nobuo Kawaguchi

    The 13th International Conference on the Internet of Things (IoT 2023)

16. **Gait-Robust Heading Estimation Using Horizontal Acceleration for Smartphone-based PDR**

    Kazuma Kano, Takuto Yoshida, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    Proceedings of the Work-in-Progress Papers at the 13th International Conference on Indoor Positioning and Indoor Navigation (IPIN-WiP 2023)

17. **Open-Domain Dialogue Management Framework across Multiple Device for Long-Term Interaction**

    Shin Katayama, Nozomi Hayashida, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    25th International Conference on Human-Computer Interaction (HCII2023)

18. **CrowdFlowTransformer: Capturing Spatio-Temporal Dependence for Forecasting Human Mobility**

    Tomoki Choya, Naoki Tamura, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    PerCom 2023 Workshop – UMUM (Ubiquitous and Multi-domain User Modeling)

19. **Smartphone Localization with Solar-Powered BLE Beacons in Warehouse**

    Kazuma Kano, Takuto Yoshida, Nozomi Hayashida, Yusuke Asai, Hitoshi Matsuyama, Shin Katayama, Kenta Urano, Takuro Yonezawa, Nobuo Kawaguchi

    In Distributed, Ambient and Pervasive Interactions. Smart Environments, Ecosystems, and Cities: 10th International Conference, DAPI 2022, Held as Part of the 24th HCI International Conference (HCII 2022)

20. **Estimating and Leveraging Latent Social Demand Based on IoT Sensors: An Empirical Study in a Large Public Park**

    Yoshiteru Nagata, Daichi Kohama, Shin Katayama, Kenta Urano, Shunsuke Aoki, Takuro Yonezawa, Nobuo Kawaguchi

    The 13th International Conference on Mobile Computing and Ubiquitous Networks (ICMU 2021)

21. **Situation-Aware Emotion Regulation of Conversational Agents with Kinetic Earables**

   Shin Katayama, Akhil Mathur, Marc Van den Broeck, Tadashi Okoshi, Jin Nakazawa, Fahim Kawsar

   8th International Conference on Affective Computing and Intelligent Interaction (ACII2019)

22. **SleepThermo: the affect of in-cloth monitored body temperature change during sleep on human well-being**

   Kento Katsumata, Yuka Noda, Naohiro Isokawa, Shin Katayama, Tadashi Okoshi, Jin Nakazawa

   WellComp 2019 – Second International Workshop on Computing for Well-Being at UbiComp

23. **Situation-aware conversational agent with kinetic earables**

   Shin Katayama, Akhil Mathur, Tadashi Okoshi, Jin Nakazawa, Fahim Kawsar

   In Proceedings of the 17th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys 2019),

24. **Motivating long-term dietary habit modification through mobile MR gamification**

   Kento Katsumata, Yusaku Eigen, Yuka Noda, Masayoshi Tsuruoka, Satsuki Hashiba, Shotaro Numoto, Shin Katayama, Tadashi Okoshi, Jin Nakazawa

   In Proceedings of the 17th Annual International Conference on Mobile Systems, Applications, and Services (MobiSys 2019)

25. **Providing Information of Hidden Spot for Tourists to Increase Tourism Satisfaction**

   Shin Katayama, Mikio Obuchi, Tadashi Okoshi, Jin Nakazawa

   In Proceedings of the 2018 ACM International Joint Conference and International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers

26. **Improved Smartphone Driving Mode System Design with Differentiated Notifications**

   HyeonJung Park, Tadashi Okoshi, Shin Katayama, JeongGil Ko

   In Proceedings of the 2018 ACM International Joint Conference and International Symposium on Pervasive and Ubiquitous Computing and Wearable Computers

Grant/Scholarship ———————————————————————————————

- Apr. 2024 – Mar. 2025 : **Foundation Research Grant** (1,500,000 yen)
- Apr. 2022 – Mar. 2023 : **Daiko Foundation Scholarship** (960,000 yen)
- Apr. 2022 – Mar. 2023 : **G-7 Scholarship** (960,000 yen)
- Apr. 2020 – Mar. 2023 : **JASSO Repayment Exemption for Students with Excellent Grades** (4,392,000 yen)
- Apr. 2020 – Mar. 2022 : **Hoshizaki Scholarship** (2,880,000 yen)
- 2019 : **Keio University Graduate School Scholarship** (600,000 yen)
- 2018 : **Keio University Graduate School Scholarship** (600,000 yen)
- 2017 : **Keio University Scholarship** (500,000 yen)
- 2016 : **Keio University Scholarship** (500,000 yen)

Committee

- Member, **Ubiquitous Computing Systems Research Committee, Information Processing Society of Japan (IPSJ)**
- Publicity Chair, **ACM MobiSys 2024**
- SV Chair, **The 13th International Conference on the Internet of Things (IoT 2023)**
- Organizing Committee, **Computing for Well-being (WellComp 2022) Ubicomp/ISWC 2022 Workshop**