Haru Kaneko

Ph.D. student at Kyushu Institute of Technology

PROFILE

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SUMMARY

My research interests include:
- Predicting and forecasting human behavior using data. Prediction of behavior and health status, especially using health records.
- Analysis of individual differences in health information and learning to account for individual differences (personalization).
- Social implementation and application of machine learning. And evaluating human behavior change through applications.

I am a second-year Ph.D. student at Kyushu Institute of Technology. My research focuses on analysis, machine learning, and deep learning of structured data such as tabular data. I mainly use care record data (health records of elderly people in the long-term care facility) to analyze and predict the future of the care record. I also developed a system to feed back the prediction results to caregivers to reduce the workload of caregivers.

EDUCATION BACKGROUND

Key features of research:
- Automatic generation of care records with the forecast of input value and analyze the elderly's health condition using machine learning to reduce the workload of caregivers.
- Implementation of an automatic care record generation function into the care record mobile application and evaluation of the caregiver behavior changing through feedback.
- Analyze behavior and individual differences in care record data using data visualization and clustering algorithms.

2022 - Now
Kyushu Institute of Technology
Doctor | Department of Life Science and Systems Engineering, Graduate School of Life Science and Systems Engineering.

2020 - 2022
Kyushu Institute of Technology
Master | Department of Human Intelligence Systems, Graduate School of Life Science and Systems Engineering.

2016 - 2020
Kyushu Institute of Technology
Bachelor | Department of system design and Informatics

GRANTS AND FELLOWSHIPS

EXTRACURRICULAR ACTIVITIES

I am a member of an NPO that conducts programming and robotics workshops and creates online educational materials for young people. (Currently, This NPO is underway in the making process and will be completed this October). This group also organizes the Fukuoka-prefecture qualifying round of the World Robot Olympiad (WRO), a robotics competition for elementary, junior high, and high school students.

LANGUAGES AND SKILLS

- Native Japanese / Conversant in English
- Python / Java / PHP / Typescript etc.
- The system for collecting the care record data uses Android (java) and a PHP server (Larave, AWS). And I am one of the developers of this system.

PUBLICATIONS/CONFERENCES

[2023]

[1] (Reviewed) **Haru Kaneko**, Sozo Inoue: "Toward Pioneering Sensors and Features Using Large Language Models in Human Activity Recognition", UbiComp '23: Adjunct Proceedings of the 2023 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2023 ACM International Symposium on Wearable Computers (HASCA), (2023), doi.org/10.48550/arXiv.2306.16017, Mexico.

[2] (Reviewed) Min Xinyi, **Haru Kaneko**, Sozo Inoue: "Predicting and Analyzing Emotions of Elderly People in Care Facilities", UbiComp '23: Adjunct Proceedings of the 2023 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2023 ACM International Symposium on Wearable Computers (HASCA), (2023), Mexico.

[3] (Reviewed) Defry Hamdhana, Christina A Garcia, Nazmun Nahid, **Haru Kaneko**, Sayeda Shamma, Tahera Hossain, Sozo Inoue: "Summary of the Fourth Nurse Care Activity Recognition Challenge - Predicting Future Activities Reviewed International journal", Activity and Behavior Computing, (2023).

[4] (Reviewed) Masato Uchimura, **Haru Kaneko**, Sozo Inoue: "Analysis of Care Records for Predicting Urination Times", Activity and Behavior Computing, (2023).

[5] Min Xinyi, **Haru Kaneko**, Sozo Inoue: "Analysis and Prediction of Mood Changes in the Elderly in Long-Term Care Facilities", Multimedia, Distributed, Cooperative, and Mobile Symposium (DICOMO2023), (2023), Japan, (In Japanese).

[2022]

[6] **Haru Kaneko**: "Automatic Generation of Care Record Contents Using Machine Learning", Master Thesis, pp 1-55, (2022), (In Japanese).

[7] **Haru Kaneko**, Masatoshi Uchimura, Koki Miyake, Sozo Inoue: "Toward Use and Analysis of Scientific Care Information System LIFE data", IPSJ SIG UBI Technical Reports, Vol. 2022, No. 12, pp 1-7, (2022), Online, (In Japanese).

[8] **Haru Kaneko**, Sozo Inoue: "Analysis of Individual Differences Among Elderlies for Automatic Generation of Care Records", Multimedia, Distributed, Cooperative, and Mobile Symposium 2022 (DICOMO2022), pp 1-5, (2022), Online, (In Japanese).

[9] Min Xinyi, **Haru Kaneko**, Sozo Inoue: "Data Collection and Analysis of Mood of Elderly and Staff in Long-Term Care Facilities", Multimedia, Distributed, Cooperative, and Mobile Symposium (DICOMO2022), (2022), Online, (In Japanese).

[10] **Haru Kaneko**, Muhammad Fikry, Sozo Inoue: "Development of Care Forecasting and Tracing Systems in Nursing and Medical Care", IPSJ SIG UBI Technical Reports, pp 1-7, (2022), Tokyo Japan, (In Japanese).

[11] Xinyi Min, **Haru Kaneko**, Sozo Inoue: "Analyzing and Predicting Emotions of Elderly People in Care Facilities", International Symposium on Applied Engineering and Sciences (SAES2022),(2022), Kitakyushu Japan.

[12] Defry Hamdhana, **Haru Kaneko**, John Noel Victorino, Sozo Inoue: "Toward Automatic Sentence Suggestion in Care Record Mobile Applications", International Symposium on Applied Engineering and Sciences (SAES2022), (2022).

[13] Defry Hamdhana, **Haru Kaneko**, Christina Garcia, Nazmun Nahid, Sayeda Shamma Alia, Tahera Hossain, Sozo Inoue: "Brief Summary of The 4th Nurse Care Activity Recognition Challenge", IPSJ SIG ASD Technical Reports, (2022) Kitakyushu Japan.

[2021]

[14] (Reviewed) **Haru Kaneko**, Tahera Hossain, Sozo Inoue:"Estimation of Record Contents for Automatic Generation of Care Records", Human Activity Recognition Challenge, Springer Nature, Vol. 204, pp 289-306, (2021), doi.org/10.1007/978-981-15-8944-7_18. Kitakyushu Japan.

[15] **Haru Kaneko**, Tahera Hossain, Sozo Inoue: "Trend Analysis by Record Item for Automatic Generation of Care Records", Multimedia, Distributed, Cooperative, and Mobile Symposium (DICOMO2021), pp 1-9, (2021), Online, (In Japanese).

[16] (Reviewed) **Haru Kaneko**, Tahera Hossain, Sozo Inoue: "Analysis of Feature Importances for Automatic Generation of Care Records", UbiComp '21: Adjunct Proceedings of the 2021 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2021 ACM International Symposium on Wearable Computers (HASCA), No. 5, pp 316–321, (2021), doi.org/10.1145/3460418.3479354. USA Online.

[17] (Reviewed) Kohei Adachi, Sayeda Shamma Alia, Nazmun Nahid, **Haru Kaneko**, Paula Lago, Sozo Inoue: "Summary of the Bento Packaging Activity Recognition Challenge", Sensor- and Video-Based Activity and Behavior Computing, pp 249–261, (2021).

[2020]

[18] **Haru Kaneko**: "Estimate the Recorded Detail of Care Records by Machine Learning", Bachelor Thesis, pp 1-31, (2020), (In Japanese).

[19] **Haru Kaneko**, Sozo Inoue: "Toward Estimate Record Contents for Automatic Generation of Care Records", IPSJ SIG UBI Technical Reports, Vol. 2,020, No. 41, pp 1-6, (2020), Nagoya Japan-Online.

[20] **Haru Kaneko**, Sozo Inoue: "Implementation of Automatic Care Record Generation in Care Record Mobile Applications", Multimedia, Distributed, Cooperative, and Mobile Symposium (DICOMO2020), pp 1-7, (2020), Online, (In Japanese).

[21] (Reviewed) **Haru Kaneko**, Tahera Hossain, Sozo Inoue: "Implementation of Care Records Automatic Generation Function in a Care Record Application", The 40th Joint Conference on Asia-Pacific Association of Medical Informatics (APAMI), pp 1-6, (2020), Online.

[2019]

[22] **Haru Kaneko**, Sozo Inoue: "Toward Automatically Generate of Care Records in Care Facilities", Proceedings of Japan Society for Fuzzy Theory and Intelligent Informatics, pp 2-5, (2019), Izuka Japan, (In Japanese).

REFERENCES

My supervisor is Prof Sozo Inoue, sozo@sozolab.jp.