

NAOKI CHIHARA

Mihogaoka 8-1, Ibaraki, Osaka 567-0047, Japan

✉ [naoki88\[at\]sanken.osaka-u.ac.jp](mailto:naoki88[at]sanken.osaka-u.ac.jp) [LinkedIn](#) [github](#) [personal website](#)

SUMMARY

My name is Naoki Chihara, a second-year M.Sc. student at Osaka University, specializing in data mining in a streaming fashion. My research mainly focuses on real-time forecasting and causal discovery in time series. I am fortunate to be advised by Prof. Yasushi Sakurai and Prof. Yasuko Matsubara at SANKEN, Osaka University. I received my B.Sc. degrees from Osaka University advised by Prof. Makoto Onizuka in March, 2023.

EDUCATION

M.Sc. in Information Science, Osaka University

Department of Information Systems Engineering, Graduate School of Information Science and Technology

Apr. 2023 – present

Osaka, Japan

- Research area: Data Stream Mining, Causality
- Supervisor: Prof. Yasushi Sakurai

B.Sc. in Engineering, Osaka University

Department of Electronic and Information Engineering, School of Engineering

Apr. 2019 – Mar. 2023

Osaka, Japan

- Research area: Time Series Feature Extraction
- Supervisor: Prof. Makoto Onizuka

EXPERIENCE

SANKEN, Osaka University

Project Researcher

June 2023 – present

Osaka, Japan

School of Engineering, Osaka University

Teaching Assistant

Apr. 2023 – Sept. 2023

Osaka, Japan

Graduate School of Information Science and Technology, Osaka University

Assistant for detection of variable celestial objects

June 2021 – Mar. 2023

Osaka, Japan

Nagase Co., Ltd.

Digital Technology Engineer

Sept. 2020 – Mar. 2023

Tokyo, Japan

PUBLICATIONS

International Conference Proceedings

- [1] [Naoki Chihara](#), Yasuko Matsubara, Ren Fujiwara, and Yasushi Sakurai. **Stream Mining Time-evolving Causality in Time Series.** *The 30th ACM SIGKDD Conference on Knowledge Discovery and Data Mining PhD Consortium (KDDPC2024)*, Barcelona, Spain, August 25-29, 2024.

International Journal Articles

- [2] [Naoki Chihara](#), Tadafumi Takata, Yasuhiro Fujiwara, Koki Noda, Keisuke Toyoda, Kaito Higuchi, and Makoto Onizuka. **Effective detection of variable celestial objects using machine learning-based periodic analysis.** *Astronomy and Computing*, Vol. 45, pp. 100765, November 3, 2023.

Domestic Journals / Presentations

- [3] [Naoki Chihara](#), Yasuko Matsubara, Ren Fujiwara, and Yasushi Sakurai. **Real-time Forecasting of Time-evolving Data Streams using Dynamic Mode Decomposition.** *IPSJ Transactions on Databases (TOD)*, Vol. 17, No. 2, pp. 1-11, April 23, 2024.
- [4] [Naoki Chihara](#), Yasuko Matsubara, Ren Fujiwara, and Yasushi Sakurai. **動的モード分解を活用した高速将来予測アルゴリズム.** *The 16th Forum on Data Engineering and Information Management (DEIM2024)*, Hyogo, Japan, February 29, 2024. *DEIM2024 Best Paper Award Runner-up.*
- [5] Aiyi Li, Kenya Hoshimure, Kei Tanigaki, Yota Hatano, Reina Nozawa, Yuki Sakamoto, Yuanzhou Wei, [Naoki Chihara](#), and Naoki Kodani. **Semi-autonomous Leader-follower Approach for Swarm Drone Guidance.** *The 36th SICE Symposium on Decentralized Autonomous Systems*, Tokyo, Japan, February 16, 2024.
- [6] [Naoki Chihara](#), Tadafumi Takata, Yasuhiro Fujiwara, and Makoto Onizuka. **周期解析による変動天体の検出.** *The 15th Forum on Data Engineering and Information Management (DEIM2023)*, Gifu, Japan, March 6, 2023.

Patents

- [7] Yasuhiro Fujiwara, Makoto Onizuka, and [Naoki Chihara](#). 検出装置、検出方法及びプログラム. 特願 2023-099796, 2023 年 6 月 19 日出願.

AWARDS

DEIM2024 Best Paper Award Runner-up

June 2024

GRANTS

Osaka University Humanware Innovation Program Scholarship

Apr. 2023 - present

- Granted monthly stipend for educational expenses.

LEADERSHIP / EXTRACURRICULAR

Conference Volunteer Work

May 2023

- The 27th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD2023)