Naoya Takeishi

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AI Lab.
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Education

The University of Tokyo April 2015 – present
- Doctor of Engineering, Aeronautics and Astronautics

The University of Tokyo April 2013 – March 2015
- Master of Engineering, Aeronautics and Astronautics

The University of Tokyo April 2009 – March 2013
- Bachelor of Engineering, Aeronautics and Astronautics

Selected publications

Journal articles (refereed)

1. N. Takeishi and T. Yairi, "Visual Monocular Localization, Mapping, and Motion Estimation of a Rotating Small Celestial Body," *J. of Robotics and Mechatronics*, vol. 29, no. 5, pp. 856–863, 2017.
2. N. Takeishi, Y. Kawahara, Y. Tabei and T. Yairi, "Subspace Dynamic Mode Decomposition for Stochastic Koopman Analysis,", *Physical Review E*, vol. 96, 033310, 2017.
3. N. Takeishi, A. Tanimoto, T. Yairi, Y. Tsuda, F. Terui, N. Ogawa and Y. Mimasu, "Evaluation of Interest-region Detectors and Descriptors for Automatic Landmark Tracking on Asteroids," *Transactions of the Japan Society for Aeronautical and Space Sciences*, vol. 58, no. 1, pp.45–53, 2015.

Conference proceedings (refereed)

4. N. Takeishi, Y. Kawahara, Y. Tabei and T. Yairi, "Learning Koopman Invariant Subspaces for Dynamic Mode Decomposition" in *Advances in Neural Information Processing Systems (Proc. of NIPS)*, vol. 30, pp. 1130–1140, 2017. (Student Travel Award Winner)
5. N. Takeishi, Y. Kawahara, Y. Tabei and T. Yairi, "Sparse Nonnegative Dynamic Mode Decomposition" in *Proc. of 2017 IEEE Int'l Conf. on Image Processing (ICIP)*, 2017. (to appear)
6. N. Takeishi, Y. Kawahara, Y. Tabei and T. Yairi, "Bayesian Dynamic Mode Decomposition," in *Proc. of the 26th Int'l Joint Conf. on Artificial Intelligence (IJCAI)*, pp. 2814–2821, 2017.
7. N. Takeishi, T. Yairi, N. Nishimura, Y. Nakajima and N. Takata, "Dynamic Grouped Mixture Models for Intermittent Multivariate Sensor Data," in *Advances in Knowledge Discovery and Data Mining (Proc. of PAKDD)*, *Lecture Notes in Artificial Intelligence*, vol. 9652, pp. 221–232, 2016.
8. N. Takeishi, T. Yairi, Y. Tsuda, F. Terui, N. Ogawa and Y. Mimasu, "Simultaneous Estimation of Shape and Motion of an Asteroid for Automatic Naviga-

tion," in *Proc. of 2015 IEEE Int'l Conf. on Robotics and Automation (ICRA)*, pp.2861–2866, 2015. (IEEE RAS Japan Chapter Young Award Winner)

Honors

- Student Travel Award, the 31st Annual Conference on Neural Information Processing Systems (NIPS), Long Beach, USA, December 2017.
- IEEE Robotics and Automation Society Japan Chapter Young Award, 2015 IEEE International Conference on Robotics and Automation (ICRA), Seattle, USA, May 2015.
- Japan Society for Aeronautical and Space Sciences President Award, the 29th International Symposium on Space Technology and Science (ISTS), Nagoya, Japan, June 2013.

Research experience

Data Science Research Lab., NEC January 2016 – March 2016
- Research intern (mentor: Dr. Daniel Andrade)

Japan Society for the Promotion of Science April 2015 – March 2018
- Research Fellowship for Young Scientists DC1

Mitsubishi Research Institute, Inc. April 2013 – March 2015
- Part-time research assistant

Teaching experience

Department of Aeronautics and Astronautics, the University of Tokyo April 2015 – March 2017
- Teaching assistant (moderator) of department seminar

Community

IEEE
- Graduate student member

The Japan Society for Aeronautical and Space Sciences (JSASS)
- Student member

The Japanese Society for Artificial Intelligence (JSAI)
- Student member
- Student member of editorial committee (April 2015 – March 2018)

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