Syllabus 2017 Computer and Mathematical Sciences
Intelligent Systems Science

Japanese

■Basic information

held this year:	yes
instructor(s)	Prof. Ayumi Shinohara, Assoc. Prof. Ryo Yoshinaka
room	GSIS 2F Lecture Hall
schedule	The first half year (Thursday) 8:50-10:20
begins on:	04/13

■Objectives and outline

In this lecture, we deal with machine learning, which is one of the central research topics of intelligent systems. We mainly focus on the theoretical approaches based on computational complexity and formal language theories, both from basic and practical view points.

■Class plan

1. Probably Approximately Correct Learning
2. Reductions
3. Occam's Razor
4. Vapnik-Chervonenkis Dimension
5. Weak-learning and Boosting
6. Exact Learning via Queries
7. Applications of Machine Learning

■Evaluation

Evaluation will be based on report, discussion and attendance.

■Textbook(s)

References:
Y. Sakakibara, T. Yokomori, and S. Kobayashi, "Computational Learning Theory", Baifukan (in Japanese).
Y. Kanamori, K. Hatano, O. Watanabe, and H. Ogawa, "Boosting", Morikita (in Japanese).
Michael J. Kearns and Umesh V. Vazirani, "An Introduction to Computational Learning Theory", The MIT Press.

■Web site

http://www.shino.ecei.tohoku.ac.jp/~ayumi/indexE.html

■Office hours

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■Other information

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