Natural Language Understanding

2 units (selection)

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Target⟩ This lecture is focused on methods of Natural Language Understanding for human-communication and intelligent text search applications. Particulary, syntax analysis algorithms and semantic analysis technics for various kinds of applications are explained in this lecture.

Outline⟩ Understanding is most important technics for the human-communication and the intelligent text search. Efficiency of the technics depend on the relationsips between knowledge dictionaries and analysis algorithms. In this lecture, case-structure with semantic informations and case-analysis algorithms is explained. Moreover, the newest Natural Language Processing systems are introduced with detailed examples. Exercises include Trie structure for the semantic dictionary, understanding for formal document, and understanding for patent documents. This subject of lecture belongs to industrial field.

Style⟩ Lecture in combination with Portfolio

Keyword⟩ *dialogue understanding, intention understanding, knowledge dictionary, morphological analysis, patent document*

Fundamental Lecture⟩ "自然言語処理"(1.0), "データマイニング"(1.0)

Relational Lecture⟩ "Advanced Machine Translation"(0.5), "Language Modeling"(0.5)

Goal⟩

1. Technics of Natural Language Understanding, Dialogue Undierstanding and Intention Understanding can be learned.
2. Key search methods in Natural Language Processing can be learned.
3. Technics of Morphological Analysis and Kana-Kanji Translation can be learned.
4. How to describe technical document and patent document based on Language Understanding can be learned.

Schedule⟩

1. Introduction
2. Dialogue Understanding
3. Intention Understanding, Report
4. New Information on Composition
5. Design of Composition Structure, Report
6. Knowledge Dectionary
7. Key Search Algorithm
8. Trie Structure, Report
9. Morphological Analysis
10. Kana-Kanji Translation, Report
11. Understanding of Technical Document
12. Exercise for Understanding of Technical Document, Report
13. Understanding of Technical Document
14. Understanding of Patent Ducument
15. Exercise for Understanding of Patent Document, Report
16. Report

Evaluation Criteria⟩ Result is decided by attendance(20%) and reports(80%).

Textbook⟩ Printed synopsises of lecture are distributed.

Contents⟩ http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216684

Student⟩ Able to be taken by only specified class(es)

Contact⟩

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