自然语言处理
Natural Language Processing

课程简介：本课程介绍自然语言处理（NLP），涵盖其历史及 NLP 深度学习的最新应用。**NLP** 是人工智能中最重要的技术之一，旨在使计算机能够理解人类语言并与人类交流。**NLP** 有各种各样的任务和机器学习方法。在本课程中，我们将介绍以下主题：

(1) NLP 的历史及任务。

(2) NLP 的基本任务：序列标注、解析、分类和聚类。

(3) NLP 的应用：机器翻译、问答等。

(4) NLP 深度学习的最新应用。

(5) NLP 面临的开放性问题和挑战。

Introduction: The course introduces natural language processing (NLP), from its history to recent advances in deep learning applied to NLP. NLP is one of the most important technologies in Artificial Intelligence. NLP aims at enabling computers to understand human languages and communicate with humans. There are a large variety of tasks and machine learning methods in NLP. In this course, we plan to introduce the following subtopics:
(1) The history and the tasks in NLP.
(2) Basic tasks in NLP: Sequence tagging, parsing, classification and clustering.
(3) Applications in NLP: machine translation, question answering, etc.
(4) Recent advances in deep learning applied to NLP.
(5) Open problems and challenges for NLP.

通过课堂学习及编程作业，学生将掌握 **NLP** 的必要知识及解决 **NLP** 实际问题的工程技术。

By learning from lectures and programming assignments, students will master necessary knowledge about NLP and engineering tricks for practical NLP problems.

任课教师：刘知远
Lecturer: Zhiyuan Liu

入学条件：掌握基本概率论、基本线性代数及编程技能（C++或 Python），熟悉机器学习者优先。

Prerequisites: basic probability theory; basic linear algebra; programming skills (C++ or Python). Knowledge of machine learning is preferred.

评分标准：出勤、作业、项目。
Grading: Class attendance is required, assignments, projects.