

Certificate in Natural Language Processing

Qualifying Participants

Individuals with one year or above natural language processing related work experience or some natural processing language foundation knowledge. Able to master and apply existing knowledge to build proper natural processing language models by using suitable processing methods based on different language materials and background with a combination of computing languages such as Python and related analysis tools.

Testing Standards

Basic Theory: statistics, probability theory, linguistics, machine learning, basic computing algorithm and programming

Tools and Software Requirements: Python or related tool sets (numpy, pandas, string, nltk, scikit-learn)

Prerequisite Skills: Able to extract information from language material data independently, and utilize machine learning study tools to construct suitable models to analyze data, develop products, and solve problems in special business fields or situations

Exam Topics

Designing a NLP product

- Collecting corpus under specific topic
- Preprocess the corpus for specific needs and models
- Analyze corpus to get useful conclusions
- Choose a proper way to visualize insights

Knowledge Summary

- Linguistics, corpus, word sense disambiguation, lexical acquisition, grammar
- Statistics, probabilities, information theory
- Markov models, part-of-speech tagging, parsing

Application Summary

- Statistical alignment and machine translation
- Clustering for exploratory data analysis and generation
- Information retrieval systems
- Text categorization

Grading Standards & Process

- This online test consists of a section of 20 multiple-choice questions, 5 subjective questions and 1 coding challenges.
- Test will be marked by examiners, and the results will be available one week after the test.
- The grading is based on a pass or no pass system. A minimum score of 80% is required to pass the test and receive the verified certificate.

Textbook

Foundations of Statistical Natural Language Processing — Christopher D. Manning & Hinrich

Schutze Natural Language Processing with Python — Steven Bird, Ewan Klein & Edward Loper