NATURAL LANGUAGE PROCESSING WITH PYTHON CERTIFICATE

Program Description

There's an abundance of textual information in the world, and more is being created each day. Working with this vast amount of text is a significant challenge for humans, as it would be impossible for individuals to read millions of web search queries, product descriptions, emails, and articles. The answer is natural language processing (NLP). NLP solutions continue to expand, with more and more applications in machine learning and beyond being discovered every day. Organizations employ NLP for textual analysis and classification as well as more advanced tasks such as writing, coding, and reasoning.

In this certificate program, you'll cover the fundamentals of NLP, including how to teach a computer where a word starts and ends, as well as more advanced skills like how to program a computer to determine what sentences mean. Throughout the courses, you'll have the opportunity to implement numerous string and text processing techniques, work with machine learning algorithms to determine how similar documents are to one another, and train machine learning models to optimize the extraction of meaningful data from documents. While gaining valuable practice with Python functions and expressions, you will also master the ability to process text using NLP-specific packages, including Natural Language Tool Kit (NLTK), Gensim, spaCy, regex, and SentenceTransformers, that can be used to extend Python's power. By the end of the program, you will have the theoretical basis and technical expertise to apply NLP in the workplace, to your innovations, and beyond.

In order to be successful in this program, students should have a working knowledge of Python programming as well as college-level knowledge of linear algebra and statistics.

Key Takeaways

- Apply classic NLP techniques to text in order to identify patterns and make processing tasks more computationally efficient
- Transform words into numeric vectors that carry similar semantic information to perform calculations on textual information
- Apply supervised machine learning classification models in order to assign categories to text
- Apply unsupervised machine learning models to summarize text as a short paragraph or set of keywords and assign topics to text
- Apply unsupervised machine learning models to relate similar groups of documents and apply different metrics to determine text similarity
- Conduct semantic and sentiment analysis on text in order to extract meaning from documents

What You'll Earn

- Natural Language Processing With Python Certificate from Cornell Bowers College of Computing and Information Science
- 144 Professional Development Hours (14 CEUs)

Who Should Enroll

- Engineers
- Software developers
- Computer scientists new to NLP
- Data scientists
- Analysts
- Researchers
- Linguists

Total Investment

4.5 months to complete the courses.

How to Enroll

For more information and to enroll, please visit Natural Language Processing with Python Certificate (https://ecornell.cornell.edu/certificates/technology/natural-language-processing-with-python/).

The courses in this certificate program are required to be completed in the order that they appear.

Courses

Code	Title	Hours
eCornell CIS571	Natural Language Processing Fundamentals	0
eCornell CIS572	Transforming Text Into Numeric Vectors	0
eCornell CIS573	Classifying Documents With Supervised Machine Learning	0
eCornell CIS574	Topic Modeling With Unsupervised Machine Learning	0
eCornell CIS575	Clustering Documents With Unsupervised Learning	0
eCornell CIS576	Conducting Semantic and Sentiment Analysis	0