



## MIMOS Natural Language Processing Tool (Mi-NLP)

Unstructured natural language texts are generated in volumes by users such as instant messages, documents or social media posts. These are harvested and analysed for consumer behaviour to gain an edge in the marketplace. Mi-NLP employs linguistic processing of unstructured text and transforms it into a semantic representation of its meaning. This enables stakeholder decision making through understanding the market, product, people and environment.

### Overview

MIMOS Mi-NLP comprises a series of customisable web service components that work together to process and analyse unstructured texts, and represent the meaning of the text. The generated representation can be utilised for further decision making and analysis. The linguistic processing is focused in English and Malay languages.

### Features

Mi-NLP comprises the following features:

#### Syntax Analysis

Text is received as an input and sent to a syntax parser to return corresponding syntax structures as output.

#### Anaphora Resolution

Anaphora resolution is performed in texts; anaphors are introduced when entities are introduced in a discourse, and subsequently not referred by their full descriptive noun phrase or name.

#### Entity Recognition

Salient entities such as person, organisation, location and facility are identified from texts, annotated and stored in an index to assist search through these attributes.

#### Relation Recognition

Relationships between entities are extracted from texts; extracted relationships usually occur between two or more entities of a certain type.

#### Semantic Analysis

An algorithm with a series of linguistic rules to generate the semantic representation of a text.

### Technology Benefits

The main impacts of Mi-NLP are:

#### Knowledge Analytics

Mi-NLP generates semantic representations from unstructured texts that support knowledge analytics to identify certain patterns on topics and entities (such as places, products, people and organisations).

#### Natural Language Information Retrieval

Instead of regular syntax or pattern matching, semantic representations (graphs) or relations generated from Mi-NLP can be used for information retrieval to discover similar areas of interest in target segments.

### Technology Summary

#### Mi-NLP

A series of customisable web service components that process and analyse unstructured texts, and represent the meaning of the text.

**Industries:** Government, Public Safety, Enterprise

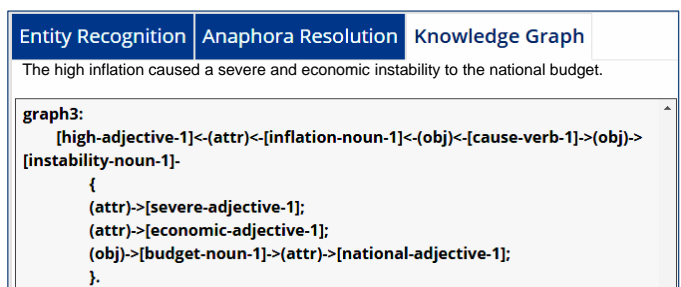
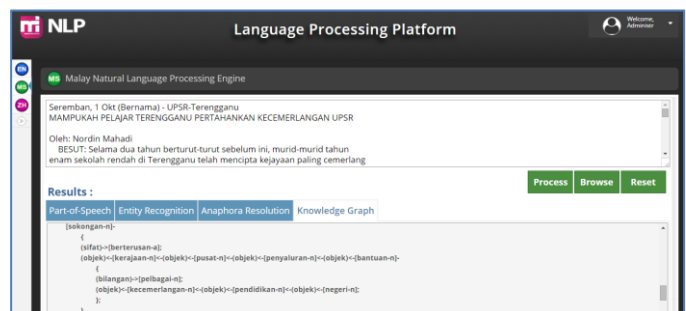
#### Features

Mi-NLP enables linguistic processing through the following features:

- Syntax analysis
- Anaphora resolution
- Entity recognition
- Relation recognition
- Semantic analysis

#### Technology Benefits

- Knowledge analytics
- Natural language information retrieval



MIMOS Mi-NLP language processing interface

### System Requirements

Mi-NLP	
Hardware Requirements	
Processor	Intel® Xeon® Dual Quad-Core, 3.6GHz
Memory	Minimum 32GB of memory
Disk Storage	Minimum 80GB of hard disk space
Software Requirements	
Operating System	Windows® 2008 Server 64-bit or Linux CentOS 5.x x64
Programming	Java® SE 7, 64-bit version
Web Server	Apache 2.2 as Load Balancer, Apache Tomcat 7 or above
Ontology Editor	Top Braid Composer
Knowledge Base Server	AllegroGraph® Server

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