



Luminoso AI for NLU

• ————— •
An Introduction to Luminoso
Technologies available for OEM



LUMINOSO

Illuminate the unknown in your data
www.luminoso.com

Supporting the BETTER Program

Advanced Word-embedding and Transfer learning AI for NLU

- Multilingual **semantic extraction in 13 languages** with the world's best multilingual conceptual understanding. (per SemEval 2017)
- **Information retrieval** with vector based concept and document searching algorithm provides advanced conceptual search.
- Near infinite scalability for real-time classification and tagging and unlimited number of projects for deep conceptual analysis.
- Word embedding vector model provides explainable AI for easy **human in the loop** processes with mature UI available.

Luminoso engine available for OEM licensing with simple REST API endpoints for integration into your BETTER solution.



Languages

Hello

English

Hola

Spanish

Bonjour

French

Hallo

German

Olá

Portuguese

こんにちは

Japanese

您好

Chinese

여보

Korean

مرحبا

Arabic

Ciao

Italian

привет

Russian

Hallo

Dutch

Hej

Swedish



LUMINOSO

Illuminate the unknown in your data
www.luminoso.com

The only technology to bring the power of word embeddings to enterprise-scale data... automatically and in real time

hello

привет

مرحبا

Native analysis in
13 languages

こんにちは

您好

bonjour

Won 14 out of 15
categories at
SemEval 2017

Understands rare
words

16.2%

more accurately than
next-best system

Independently verified
by leading
organizations



LUMINOSO



Completes analogies as well as
the average college applicant

Illuminate the unknown in your data

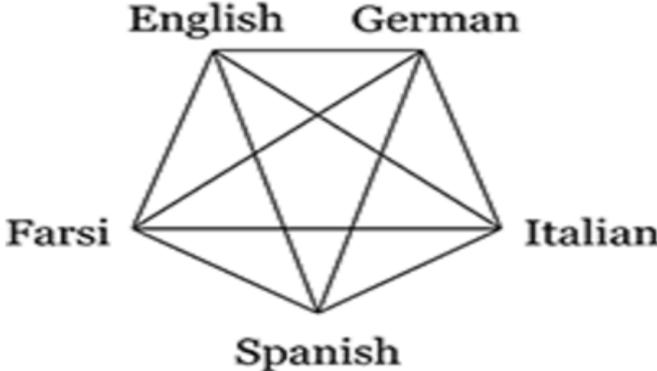
www.luminoso.com

SemEval 2017 Task 2 Results

- SemEval is about multilingual word similarity
- Allows an independently validated, head-to-head comparison with other research
- We took **first place** in both subtasks
- We beat all other multilingual systems by a large margin
- We were the best-performing system in each of 14 out of 15 categories (all but Farsi)
- Outperformed all current neural-net research and other knowledge graphs

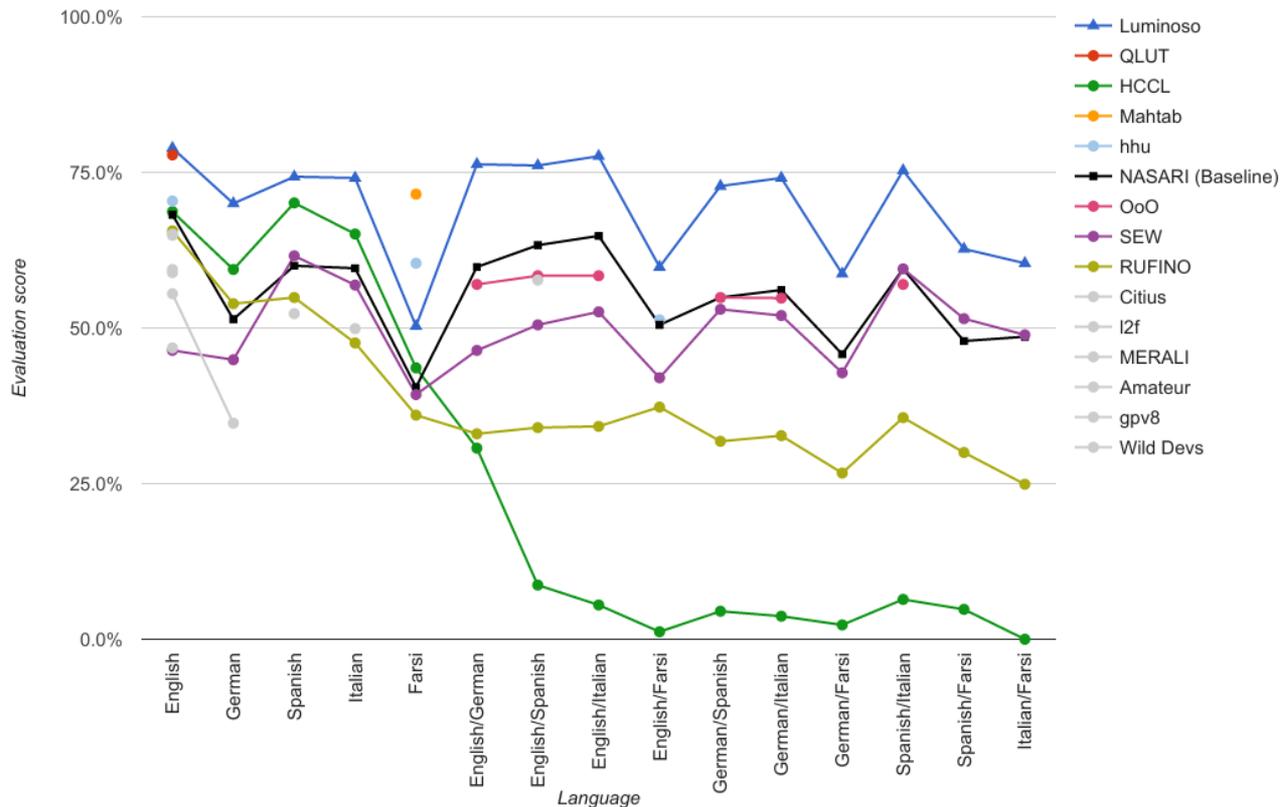


Languages evaluated in the SemEval task

Multilingual subtask	Cross-lingual subtask
<p data-bbox="117 431 952 464">Five monolingual word similarity datasets:</p> <ul data-bbox="189 507 537 748" style="list-style-type: none"><li data-bbox="189 507 396 540">English<li data-bbox="189 562 537 595">Farsi (Persian)<li data-bbox="189 616 409 649">German<li data-bbox="189 671 376 704">Italian<li data-bbox="189 726 409 758">Spanish	<p data-bbox="975 431 1812 464">Ten cross-lingual word similarity datasets:</p>  <p>The diagram shows a complete graph with five vertices labeled English, German, Farsi, Italian, and Spanish. Each vertex is connected to every other vertex, representing all possible cross-lingual word similarity datasets between the five languages.</p>



SemEval 2017 word similarity results



Scaling Existing Systems

- We have semantic models in 70 languages
- Farsi for SemEval was built with only a semantic model
 - You only need a semantic model to port rule, keyword, cluster, or ontology based products to other languages
 - This could help take existing systems to many more languages than our production products.





Thank you!

Company website
www.luminoso.com

Company email
info@luminoso.com



LUMINOSO

Illuminate the unknown in your data
www.luminoso.com

Flexible deployment options

Standard cloud



Secure multi-tenant cloud hosted by Amazon Web Services (AWS) and monitored by Luminoso. Guaranteed 99.5% uptime.

Private cloud



Both US-based and EU-based clouds available. Allows complete control of internet-based access to your system.

Onsite



Plug Luminoso into your existing systems and keep data behind your own firewalls. Easy to manage and maintain.



LUMINOSO

Illuminate the unknown in your data
www.luminoso.com

The evolution of natural text understanding

1960s

▼
Pattern Matching
& Keywords



1990s

▼
Rule Sets &
Ontologies



2000s

▼
Unsupervised
Machine Learning



2010s

▼
Word Embeddings
("Deep Learning")



2017

▼
Artificial Intelligence
For Unstructured
Learning



LUMINOSO

Illuminate the unknown in your data
www.luminoso.com