



IDEALIST PROJECT SUPPORT USE CASE TO THE IDEA OF “SUPPORT SET CLASSIFIERS”

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Ideal-ist has been active since 1996

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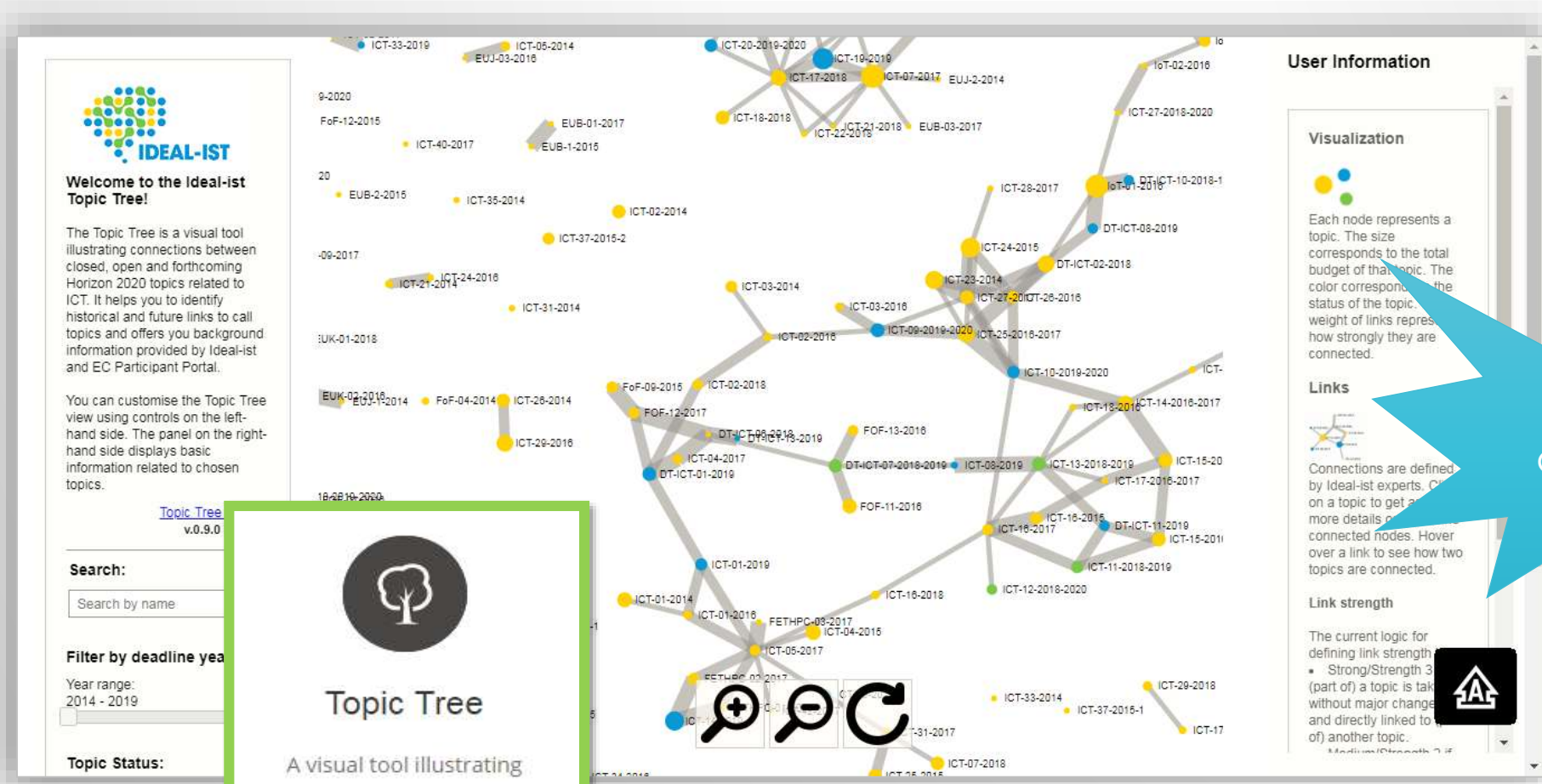
Topic
Tree



Pre-proposal
check

&
Full proposal
review

IDEAL-IST TOPIC TREE





Topic Tree

A visual tool illustrating connections between closed, open and forthcoming Horizon 2020 topics related to ICT

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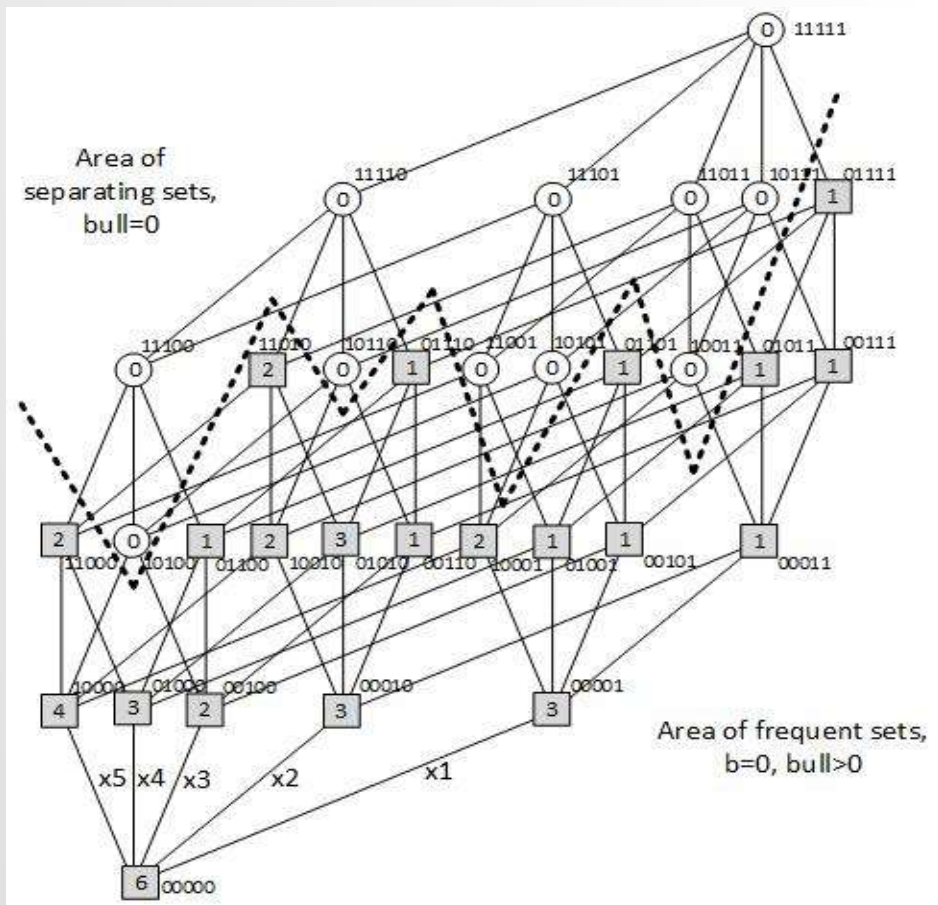
We're also on [Youtube!](#)

CLASSIFICATION PROBLEM

FEATURES					
OBJECTS	x_1	x_2	...	x_n	CLASSES
\tilde{a}_1^1	$a_{1,1}^1$	$a_{1,2}^1$	...	$a_{1,n}^1$	C_1
\tilde{a}_2^1	$a_{2,1}^1$	$a_{2,2}^1$	...	$a_{2,n}^1$	
...					
$\tilde{a}_{m_1}^1$	$a_{m_1,1}^1$	$a_{m_1,2}^1$	...	$a_{m_1,n}^1$	...
...					...
\tilde{a}_1^l	$a_{m_{i-1}+1,1}^l$	$a_{m_{i-1}+1,2}^l$	...	$a_{m_{i-1}+1,n}^l$	C_m
\tilde{a}_2^l	$a_{m_{i-1}+2,1}^l$	$a_{m_{i-1}+2,2}^l$	...	$a_{m_{i-1}+2,n}^l$	
...					...
$\tilde{a}_{m_l}^l$	$a_{m_l,1}^l$	$a_{m_l,2}^l$	...	$a_{m_l,n}^l$	...

Figure 1. The Learning Set $T_{n,m,l}$

SUPPORT SET STRUCTURE FOR HIGH DIMENSIONAL LOW SAMPLE SIZE DATA



Number of features is very large, 3.2bill

The size of learning set is small

Support set is the minimal set of features providing high quality classification

Support set area is complementary to APRIORI data mining frequent sets

Alternatively, support sets may be generated by chain split data mining

ICT-51-2020: Big Data technologies and extreme-scale analytics

Specific Challenge: Rapidly increasing volumes of diverse data from distributed sources create challenges for extracting valuable knowledge and commercial value from data but at the same time have huge potential towards more accurate predictions, better analytics and responsible AI. This calls for novel methods, approaches and engineering paradigms in machine learning, analytics and data management. As the success will require not only efficient data processing management but also sufficient computing capacity and connectivity, a coordinated action with the appropriate technology areas (e.g. AI, analytics, software engineering, HPC, Cloud technologies, IoT and edge/fog/ubiquitous computing) is necessary and will contribute to a European leadership in these areas.

Scope: **a) Research and Innovation Actions (RIA)**

Developing new methodologies and engineering solutions addressing industrial and/or societal challenges. Proposals should cover at least one of the following technology areas (but may additionally cover others): machine learning/deep learning (especially on distributed data sets), architectures for collecting, managing and exploiting vast amounts of data; system engineering tools to contribute to the co-design of federated distributed systems (to involve all stakeholders technology areas); new methods for extreme-scale analytics, deep analysis, precise predictions and automated decision-making; novel visualization techniques; data fusion and data integration technologies; standardized interconnection methods for efficient sharing of heterogeneous data pools, seamlessly using distributed tools and services.

THANK YOU VERY MUCH
FOR YOUR KIND ATTENTION