Deap Learning Platform

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ADDRESSING THE CHALLENGE

When it comes to text analytics, Machine
Learning and Data Mining approaches have
shown their limitations: there is no one-
size-fits-all model and algorithms that work
with one type of text will fail with another.
At the same time, businesses are having to
deal with a larger dataset than ever before,
including heterogeneous sources like social
media and Internet of Things (IoT). As most
internet texts are unstructured, unprocessed
and unlabelled, the traditional method of
building a representative model to analyse
each type is ineffective. The next step must
be the utilisation of combined technologies
and Deep Learning analytics.

PROPOSED SOLUTIONS

PAPUD (Profiling and Analysis Platform
Using Deep Learning) will aggregate
various Machine Learning and Data
Mining technologies, such as Theano and
TensorFlow, to produce novel text analytics
algorithms. As a generic framework, it will
act as a Platform as a Service (PaaS) with
cloud features. PAPUD will receive data from
sources including emails, surveys, machine
logs, voice to text data, videos allowing
to create Deep Learning models through
technological collaboration. This will enable
PAPUD to understand the data’s semantics
and perform complex operations, such as
summarisation, sentiment analysis and
weak signals detection. Models will then be
stored and shared globally, with the aim of
creating an open source PAPUD community
that continuously improves models by
adding new data. This large amount of data
will be processed on a common hardware
HPC platform using a shared Big data
and Deep Learning framework. After the
integration of use cases in a number of
countries, a standardisation phase will aim
to make PAPUD internationally exportable.

PROJECTED RESULTS AND IMPACT

PAPUD’s primary business results will
be the domain-specific analysis of
structured or unstructured text data, such
as determining the emotional sentiment of
customer feedback. In the fields
of e-commerce, call centre operation,
human resources, e-government and
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ITEA is a transnational and industry-driven R&D&I programme in the domain of software innovation. ITEA is a EUREKA Cluster programme, enabling a global and knowledgeable community of large industry, SMEs, start-ups, academia and customer organisations, to collaborate in funded projects that turn innovative ideas into new businesses, jobs, economic growth and benefits for society.

https://itea3.org

**PAPUD**

**Project start**  
January 2018

**Project end**  
December 2020

**Project leader**  
Cornel Crisan, Bull

**Project email**  
cornel.crisan@atos.net

**Project website**  
https://itea3.org/project/papud.html