

## Enlighten your data

Lummetry is an Artificial Intelligence company. Our Deep Learning based solutions augment your decisions making processes with data-driven insights unleashing the full potential of predictive analytics.

We believe in humans working alongside machines to analyze large amount of data and bring out valuable insights for any business

## Our key expertise:

- Predictive Business Analytics
- Video Analytics
- Domain Agnostic Anomaly Detection
- Neural Language Modelling Solutions

## Lummetry For you

We can offer you valuable insights about your clients, your business, by analyzing and modelling your Big Data. With our help, your company can identify and capitalize on untapped business opportunities, discover and mitigate risks, automate knowledge work by leveraging Big Data and the Internet of Things (IoT) with the power of Machine Learning and Deep Learning models.

Our products and solutions can adapt to various domains.

## Key domains:

- Retail
- Security
- Banking
- Healthcare
- Online Advertising
- Distribution and Logistics
- Industrial Maintenance

We help companies increase revenues, reduce costs and improve business process efficiency using Al

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**Our Hot Areas of implementations** currently include:







**Distribution and logistics** 

Security



Healthcare



**Online advertising** 





According to our customers' feedback, our products' and solutions' results exceeded their expectations.

**Key applications:** 

- customer segmentations and clustering analysis

- payments, overpayments, fraud, etc.
- identification, object detection, etc.

## Lummetry.AI in your business

• Customer Advanced Behavior Pattern Analytics - go beyond traditional

• Customer Attrition, Prediction and Mitigation - know all the "when", "how", "why" when it comes to losing your valued customers

• Multi Domain Next Event Prediction and Understanding - from consumer next purchase to the prediction of "when" and "what" your B2B partner will order and finally up to the lifetime predictive evaluation of your customer

• Financial transactions anomalies identification and prediction - double

• Computer vision analytics (GDPR Ready) - face recognition, person re-

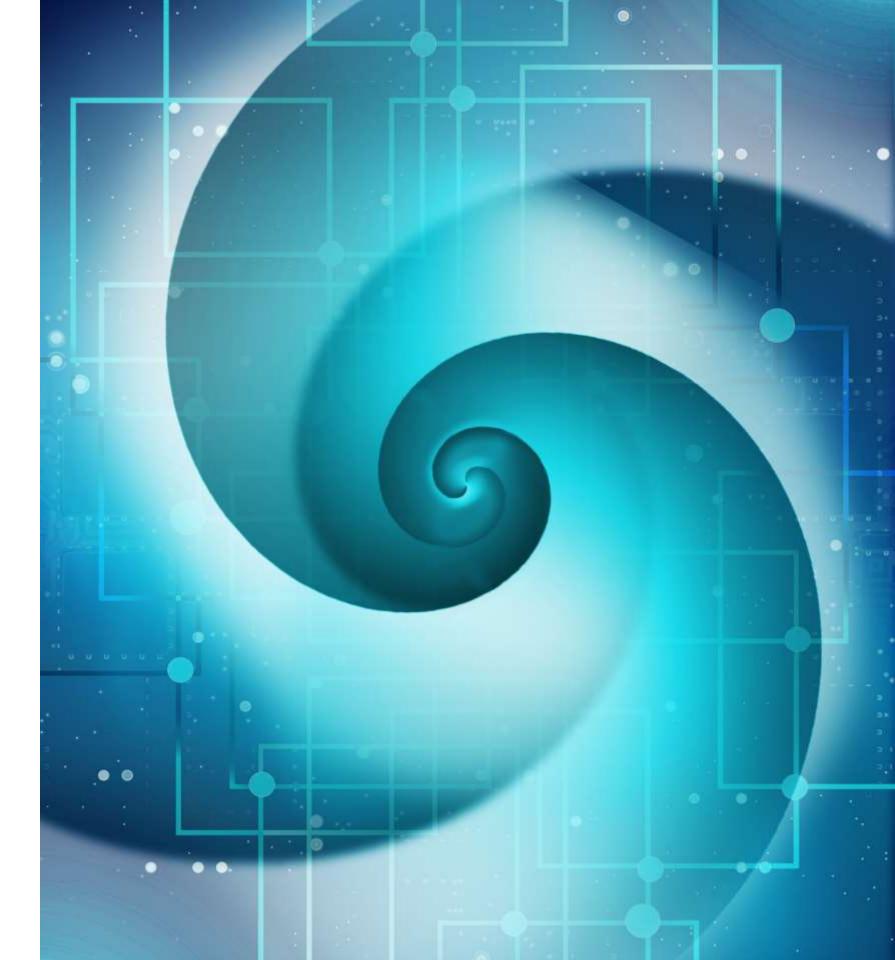
## Our Underlying Magic

We are making full use of beyond state-of-the-art Deep Learning proprietary research and technologies in order to deliver to our clients the best possible business insights.

## Key technologies used:

- Hierarchical Recurrent Deep Acyclic Graphs based on CUDA-optimized LSTMs
- Mesh multi column, graph-in-graph architectures based on fully connected NN modules
- Complex Deep Vision graphs based on convolutional (CNN) modules
- Multiple multi-dimensional latent variable analysis including tSNE visualization

Your great advantage is that Lummetry is using its own unique, in-house developed technology, which means that you will get personalized predictions and results.



## DUR AI



## SHIELD

# LUMMeru Vaport



## Lummetry VAPOR+

## Video analysis for consumer experience enrichment

Lummetry VAPOR+ is our advanced scene and video analysis solution based on custom Deep Vision technologies. Lummetry Video Analysis Processing, confidentialization-Obfuscation and entity Recognition is a solution that targets multiple areas, ranging from GDPR-oriented basic features up to advanced video analysis. The solution is a complex AI Deep Vision powered video analytics platform capable of being deployed in various scenarios. It helps companies gather data automatically from their video feeds and then analyzes these data using Deep Learning modules in accordance with our clients' needs. Its application ranges from security industry (e.g. real time burglary alert) to retail (e.g. planogram conformity) to healthcare (e.g. patient lying on the ground in clinic or homecare)

## **Key features:**

- tracking
- configurable alerts for various purposes
- conformity analysis
- On-demand customized video analytics features
- cloud) or as an API back-end

• Person tracking system for real-time or off-line video analysis

• GDPR-compliant person obfuscation system based on selective actor

• Advanced human actor analysis including pose, emotion and demographics • Embedded storytelling capabilities of the video feeds, including

• Retail-specialized functions such as real-time merchandising planogram

• Works either as a stand-alone online system (deployed on-prem or in-

## Lummetry LENS+

The business lens you need to better understand the past, the present and predict the future

**Lummetry LENS+** is our state-of-the-art AI predictive analytics solution designed for the retail industry but applicable for any industry with large number of clients, products or services (e.g. banking vertical, distribution & logistics horizontal, a.s.o.). Lummetry Latentinsights Entity analysis Neural System uses state-of-the-art Deep Learning approaches in order to create advanced knowledge graphs that act as a radiography of the analyzed business. This way we can identify transactional behavior patterns among which, we can mention for example, insights based on simple transactional logs (products sold by a retailer using w/o customer info). Lummetry LENS+ helps companies understand the "buying behavior" of their consumers & partners when promotional campaigns are in place, when product seasonality occurs, or when customer behavior changes based on external factors.

## **Key features:**

### **Business radiography**

- Find products complex relationships (such as complementarities, needs addressing, etc.)
- Create usable content such as product bundling promotions based on the dynamic evolving patterns
- Pinpoint at potential product cannibalization scenarios based on actual evolving consumer needs
- Identify customer needs changes and construct insights accordingly

### Actionable insights based on advanced Predictive Analytics

- Demand & Sales forecasting based on complex non-linear patterns
- Predictive stock replenishment
- Predictive impact of custom actions (e.g. marketing campaigns, planogram changes, merchandiser actions)



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## ODISSEI

## Lummetry ODISSEI

## Analysis of the user's journey throughout a given online or offline ecosystem

Lummetry ODISSEI is our product that can help you determine near real-time propensities of a certain action for a particular human actor (e.g buy a specific product or click a specific promotion in a online system, determine the employee probability of leaving a company and the actual timing), providing you have a detailed track record of specific users' events (e.g. website tracking API for visitor events or employees' track record details of activities). Moreover, it can determine, along the users' journey, specific moments and different types of actions in order to increase the probability of reaching the desired target.

## **Key features:**

- segmentation
- action segmentation
- online system)
- Insights generation at user-level or meta-user level
- Predictive modelling of each user profile
- Predictive modelling of event & action relationships
- cloud) or as an API back-end

• Behavior-based user analysis including advanced clustering and meta-user

• In-depth analysis of action & event ecosystem including behavior-based

• User journey state notification system (such as active, reactive, leaving in a working environment or engagement, disengagement, slow-engagement in an

• Works either as a stand-alone online system (deployed on-prem or in-

## Lummetry ALLAN

### ALL-purpose Artificial Neural-assistant

**Lummetry ALLAN** is our generative neural language system, capable both for conversation (including in Romanian language) and user real time conversation based profiling. Moreover, ALLAN can perform intelligent tasks outside of chatbot type conversations such as analyzing documents and perform smart classification (e.g. emails' classification), generate task-oriented specific insights and construct the writer's profile.

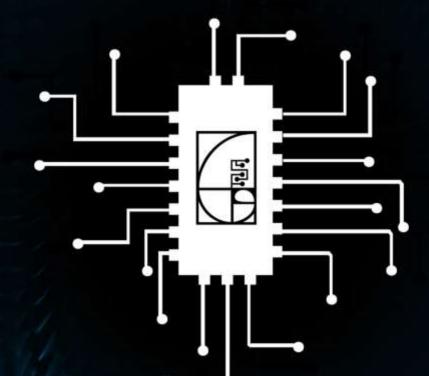
## **Key features:**

- Works on multiple areas ranging from online retail assistance up to back office document analysis
- Interacts with external system in order to provide useful insights regarding human author profile
- 100% Deep Neural based assistant. No rules or decision trees
- Trainable on various tasks and texts corpuses
- Analyses, understands and replicates humans' natural language
- Interacts with humans, being able to follow the conversational thread
- Create user profiles based on the actual intents that can be determined within the conversation thread
- Can be deployed as a online personal assistant or a back-office worker
- Works either as a stand-alone online system (deployed on-prem or incloud) or as an API back-end



# ALLAN

## Lumerry SHIELD



## Lummetry SHIELD

Domain agnostic anomaly detection

**Lummetry SHIELD** is our product for domain agnostic anomaly detection and prevention based on actionable insights. Our Self-learning Heuristical Intelligent Entity anomaly Detector is designed to work on a multitude of data streams in areas such as information security, banking risk, fiscal and transactional frauds, data confidentiality, industrial production anomalies, IoT systems, real time electronical/mechanical systems.

## **Key features:**

system

• Analyzes various structured data such as accounting, security, userinformation data-streams Uses advanced methods to analyze any kind of unstructured data ranging from raw text data up to scanned bitmaps document images

- contains both structured information and unstructured data
- time streams of data or on Big Data repositories
- cloud) or as an API back-end

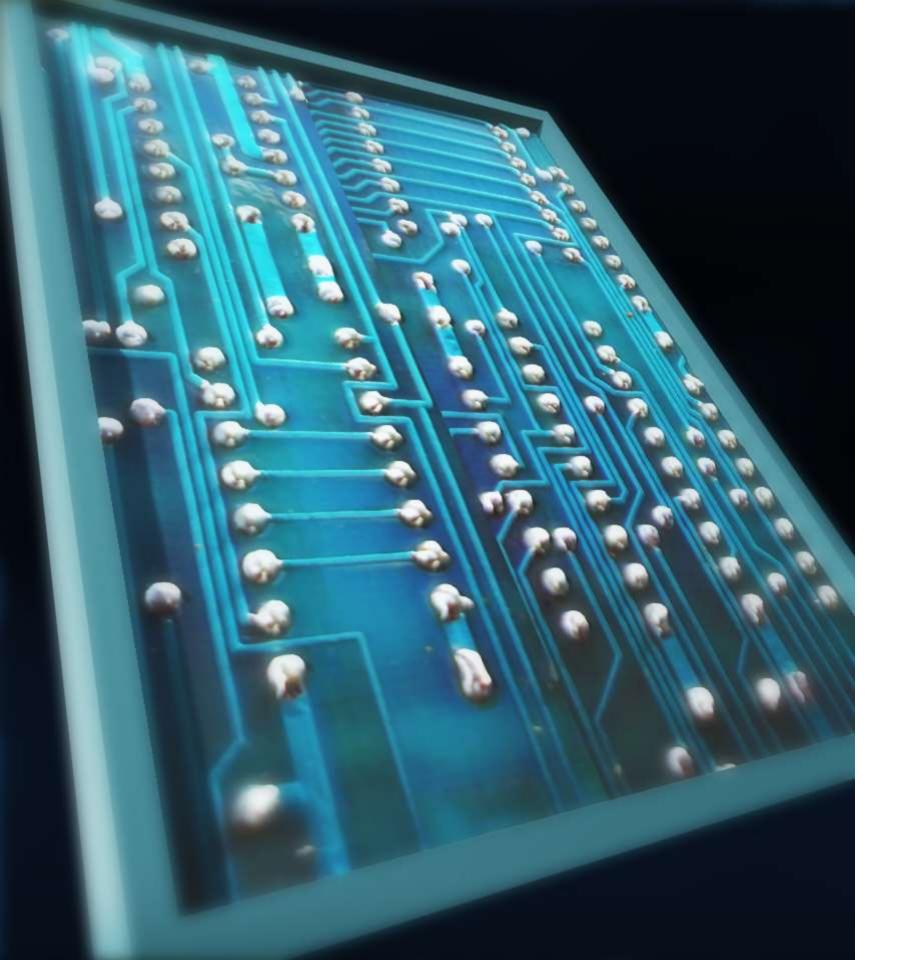
• Based on our own researched deep hierarchical siamese neural graphs the

• Successfully tested in various scenarios where the analyzed data stream

• Implementation and configuration can deploy Lummetry SHIELD to various scenarios ranging from SIEM data analysis to banking transaction analysis

• Analysis of data streams and detection of anomaly-like behaviors in real

• Works either as a stand-alone online system (deployed on-prem or in-



## Lummetry Data Science Projects

Providing you have Big Data available, we can tailor customized data science projects according to you needs and identified problems. Our team of Business Analysts and Data Scientists can help you build business objectives that can be achieved through data modelling.

## **Key technical features:**

- platforms.
- frameworks.

• Specifications based Data Science system analysis engineering.

• Systems architecture based on customer required resources and libraries targeting various platforms (TensorFlow, Microsoft R, Python SciKit Learn, Apache Spark ML, R Caret) followed by full scale development in target

• Internally developed Machine Learning libraries (C++ and Eigen) implementing various shallow models and fully connected neural networks for custom (embedded, etc) applications beside the wide market adopted

• Solution deployment in target customer environment, cloud-based environment (MS Azure, etc) or fully integrated solution deployment (including high-performance computing equipment tailored for customer project need.

After all, you want a brighter future, we also want a brighter future We're all in a symmetry of thoughts Lummetry brings that bright future, tailored to your needs

## Contact us:

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