



Data Science Services

for Startups and
Established businesses

Trends

Trends

\$ 15.7 tr potential contribution to the global economy by **2030 from AI**

In 2019, **forecasts predict** that the global analytics market will reach **49 billion** dollars worldwide, more than **double the value four years ago**.

Key sectors for using data science



Healthcare

Supporting diagnosis, early identification of potential pandemics, imaging diagnostics



Automotive

Engine monitoring and predictive, autonomous maintenance, driver assist



Financial services

process automation, security financial planning



Retail

personalised design, predictions, inventory and delivery management



Manufacturing

monitorings, productions optimization

Top tech-areas to use DS

- Augmented Reality, Virtual Reality
- Blockchain
- IoT
- Speech, face, image recognitions
- Automated decision making

Two main approaches working with data

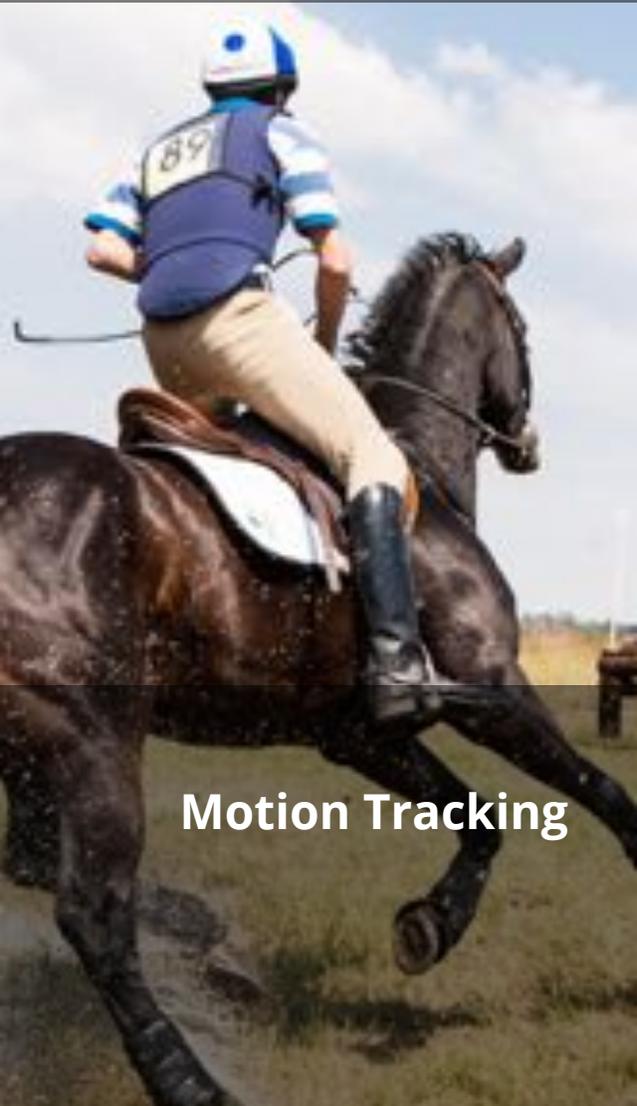
- Transfer learning
- Synthetic data generation and simulation

Need to pay attention

- Data quality
- Data and cyber security
- DevOps
- Data science ethics
- Open-source solutions

Our Expertise

Lemberg's ML & AI Team combines academic Data Science knowledge and excellent IT engineering skills.



Motion Tracking



Computer Vision



Audio Analysis



Text Data Analysis

Projects

Computer Vision

- 
- Scene analysis
 - Segmentation of objects
 - Object recognition
 - Object tracking
 - Algorithms for improving video stream quality
 - Video and photo compression
 - Video stream comparator

Motion Analysis



- Recognition of motion types using indicators of smartphone sensors
- Detection of researched object's activity
- Assessment of the execution of a specific exercise
- Particular activity counter
- Detection of activity anomalies that are similar for different activity sources
- Determination of movement direction without gps signal

Audio Analysis

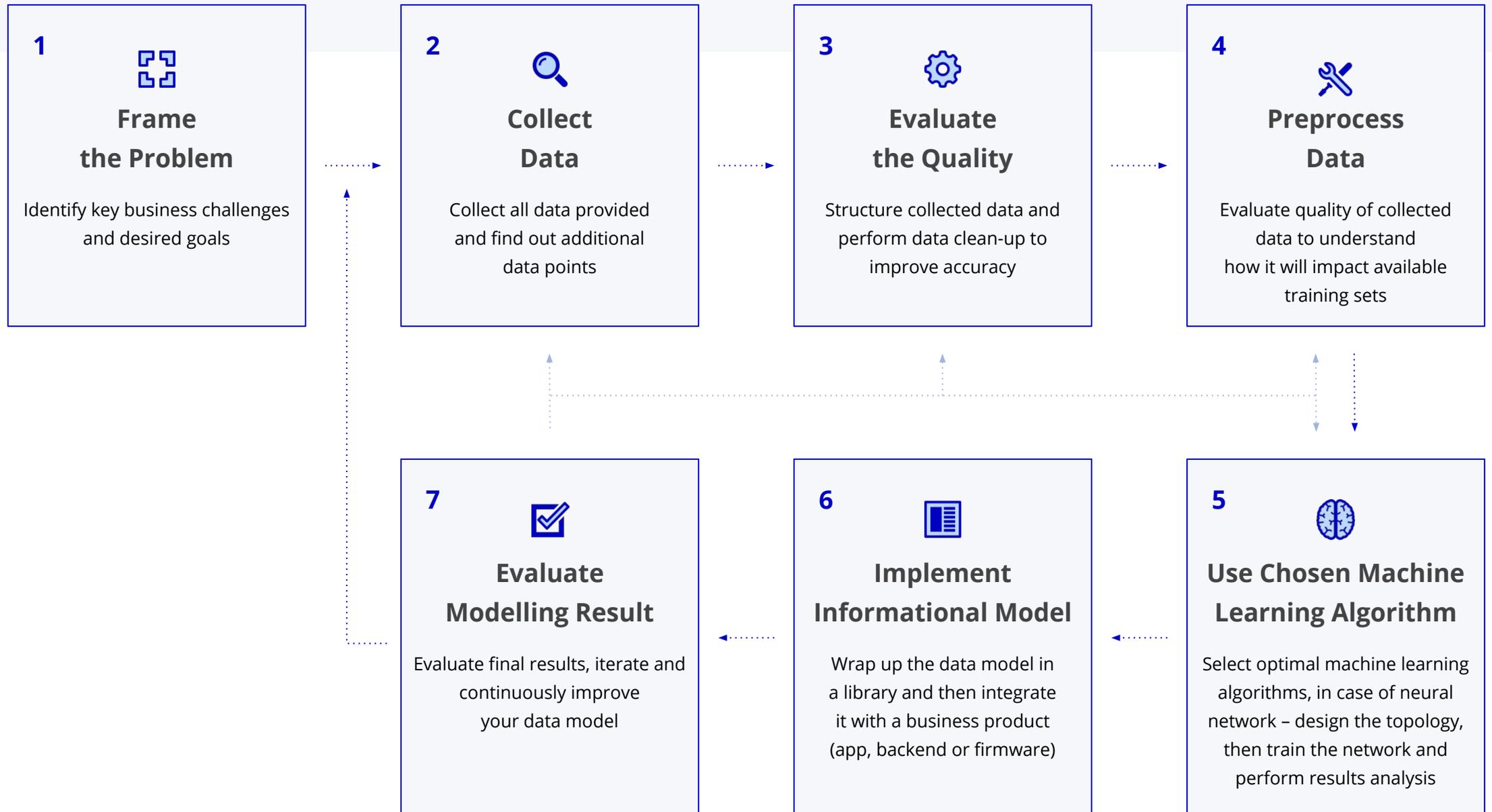
- Sound pattern recognition
- Speaker recognition
- Audio stream comparator (streams with delays and noise)
- Study the environment in the unsupervised learning mode and detect unusual events
- Removing from the audio stream of artifacts (ticks) caused by weak radio signals or interruptions.
- Speeding up the play of human speech without changing voice tone
- Speakchat

Text Data Analysis

- Chat bots
- Reading multi language messages
- Analysis of customer feedbacks
- Text Mining by specific criterions from different sources

How We Work

How We Work



Roles & Responsibilities

	Business Analyst	Defining business needs and goals Requirements gathering and info structurizing Data visualization
	Data Scientist	Researching Modelling Finding patterns & relationships
	Data Engineer	Collecting, managing, analyzing data Building & maintaining infrastructure High performance computing
	Software Engineer	Software, Firmware and Hardware development Testing

Additional roles

- Data architect
- Statistician
- Data analyst
- Applied Machine Learning Engineer
- UI/UX Designer
- Project/ Program manager

*The number of the team-members varies on the type and complexity of the project

Deliverables



Research Report

Brief information on the experiments carried out during the research, their methodology, the results obtained and their interpretation



Informational model

A model obtained as result of data processing with machine learning algorithms in form of trained neural network, configured fuzzy logic controller, mathematical formula etc.



Collected datasets

Data sets contain the value of informational parameters of the modeling object and are used to construct and validate an information model of object or process.



Algorithm description

Description of the principle of the functioning of the solution



Prototype

Implementation of developed algorithms in form of Prototype



Algorithm correction

Tuning and optimizing of algorithm for better performance



Field Test report

Report with results of comprehensive Field testing of the prototype and their interpretation



Description of a utility model for patent registration

For the know-how found during the research, technical documentation for the registration of a patent for a utility model may be prepared.

About Lemberg

Lemberg is a technology consulting, software & hardware engineering company.

Startups and established businesses work with us to build new products and deliver digital transformation.

Our clients appreciate complete engineering services suite, empowered by expertise in consumer electronics, automotive, sports tech, digital media, industrial IoT and healthcare.



Key facts

**100+
professionals**

Engineers, Product and
Project Managers,
Architects, Designers,
Testers

**Head office in Lviv,
Ukraine**

Lviv is one of the biggest
East European tech hubs

**10+ years on the
market**

Our journey started
in 2007

**Serving European and
American markets**

Our customers are located
in the US, Germany, the
Netherlands, UK, Ireland,
France, Italy



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Let's Start

Meet Slavic, he oversees business development at Lemberg and is passionate about his job. You can get exactly what you want from your Lemberg experience and Slavic will be glad to assist you along the way.

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