Welcome









Sinte







IT vanguard for business www.sinte.net



Approach

- First party solutions → complete responsability of the development (our code)
- 2) Adaptation to the needs → We know how you have to work We have to know how you work (analysis as the key of project's success)
- 3) Modular development → reusability of code for speed and robustness

(OOP Objects Oriented Programming)

4) Abstract approach \rightarrow keep development under control

(UML Unified Modelling Language design)

- 5) Lateral thinking for innovation → "Everyone has always done in this way" is not necessary a value (new ideas and prototyping)
- 6) Continue updating → To be always on the bleeding edge of the technology (35% R&D investment)



25 years of innovation (a)

Starting from the past millennium several innovative jobs:

- **1999 Live Streaming** with Nilla Pizzi during Sanremo Festival
- 2000 Live Streaming of the first version of Italian "Big Brother"
- **2000** Nixie: one of the first **e-commerce** case of success in Italy grown up till the creation of physical shops (followed by many e-commerce sites such as the actual: sportit and dimanoinmano)
- **2001 e-learning** Interactive solution for Sanofi (Pharma company) (slide sync with streaming and tests)
- **2001** A very automated **network** of 54 sites of the 54 towns of the future Monza Province, with events, appointments and databases of useful information
- **2002** Complete **automated online Catalogue** with CD syncing for Selva (the biggest furniture company in Italy)
- **2002** One of the first editorial **online magazines** for EditriceTemi (followed by many other success cases with EditorialeDirecta, Sunnycom, Motonline, EditorialeDomus-Quattroruote, Radiolombardia, Accordo.it, ...)
- **2002** A flash screensaver for all ST Microelettronics PCs in the world to celebrate their 15th year.
- **2002** One of the first **social community** in Italy for Radiolombardia (Discoletto) (4 years before Facebook)
- 2002 Online catalogue for the photos (RM and RF) for Olycom (the biggest Italian photos agency) with millions of records
- **2003** A very modern site for the 10 cinema in Monza, allied to create a "virtual" multiplex to fight real multiplex. Programming, automated newsletter, booking and purchasing of ticket
- 2003 A multiporpouse ERP for the CRAL of Banca Popolare di Milano managing 40M € / year, from food, to vacations, from jewels to consultant.
- **2004 Georefering** Selva's shops in all Europe with map and information to get to the nearest one (2 years, before Google)



25 years of innovation (b)

- 2005 In browser 3D projects solutions for Rifra in Flash technologies (ActionScript)
- 2005 Management software for a Clinical Center, with innovative engine for appointments.
- 2006 A virtual runners' and triathletes' solution for Happyrunner that became one of first five in Italy (it has reached more then 1.300 members).
- 2007 Interactive flip system to consult research results of Roche for their Intranet
- **2008** Innovative Intranet for Havi, international logistic company (supplier also of McDonald's all over Europe)
- 2009 Module to interact with Regione Lombardia certified by SISS (smartcard for public health)
- 2010 One of the first radio app in Italy (live with titles in streaming and on demand) for Radiolombardia,
- **2010** Powerful **crawler** for fashion (collecting articles and advertisement)
- 2011 One of the first live assistant with videochat in the Tisettanta outlet website
- **2012** Innovation of accordo.it getting the biggest italian web community (more than 30.000 users)
- 2013 Forecasting solutions for McDonalds'
- 2013 Meta analysis to extract precise quantitative evaluation from huge scientific literature for Sorin
- **2014 Big Data Solutions** for Sky (billion of records with thousands of features) in support of Adobe Systems.
- **2014** The first **industrial app** in the world to manage big production machine **via modbus** (initially refused by Apple because they didn't even understand the scope!)
- 2014 A revolutionary 3D app that reproduce a physical game of Geomag
- 2015 Real time advertising solution for Sky



25 years of innovation (c)

- 2016 A powerful search engine for e-commerce sites, with similarity and automated filters
- 2016 Antichurn web application for Italtel presented at MWC
- 2016 An innovative messenger which represents the mood of users in the balloon for YouBalloon
- 2016 Editorial recommendation for Deutsche Welle's AppleTV app.
- 2017 Collection and analysis of online advertising for JCDecaux
- 2017 E-commerce recommendation for sportit.com
- 2017 Analysis of the web to map customer satisfaction of brand and its competitors for Vodafone
- 2018 CRM Enrichment for Banca Intesa
- 2018 Hand writing recognition for Generali
- 2018 Meta-sotware for McDonald's and Aspis
- 2019 Unstructured data discovery for Essilor
- 2019 Recommendation engine for the Marketing of GEDI (Gruppo Espresso)
- 2019 Smart living project with Evolvere
- 2019 Industria 4.0 project with Italbond
- 2020 Fake news identification with "Il Messaggero"
- 2020 Artificial Intelligence for industrial optimization with Luxottica
- 2020 Innovative GDPR solution with many automations for Essilor



25 years of innovation (d)

- 2021 High quality leads generation for Quattroruote with artificial intelligence
- 2021 Automatic Data discovery and Masking engine for Primeur
- 2021 Deep learning engine to **identify users behind anonymous television** for Mediaset
- 2021 Automatic survey using artificial intelligence for Vinhood
- 2022 BI solution for McDonald's restaurants
- 2022 Meteo forecasting solution for ARPA
- 2023 Use Artificial Intelligence Bot to identify specialistic topics for II Sole 24 Ore
- 2023 Document data extractor to create structured data from huge ammounts of documents for Aromata
- 2023 Automatic objects recognition in industry to monitor production for FHP
- 2024 Use a proprietary NLP to identify topics of websites to create interests user profiles for TIM
- 2024 Use a modern **Statistical Learning Engine** to help Coripet to find the best are where to install the recycle machines.
- 2024 Advanced Time Series Models to assist Unieuro in the selection of advertising investment to maximize revenues.





But also a lot of business as usual

- hundreds of customers
- hundreds of websites
- tens of apps
- tens of management software
- tens of infrastructures managed
- hundreds of hostings
- tens of housings



Infrastructure

- 30 physical superservers in different webfarms around Europe
- More than 150 Virtual Servers
- More than 400 managed domains
- More than 5.000 mailboxes on our mailserver
- More than 500 web application developed



Competences

- Software
- Web (e-commerce, e-learning, streaming...)
- Mobile apps
- Data collection
- Security
- Image analysis
- IT infrastructures
- Hosting & housing
- System integration
- Statistics
- Big data solutions
- Data science
- Data visualization
- Semantic
- Machine learning and deep learning
- Artificial Intelligence
- Usability



smartstat: Innovative startup

Business Science for governance, competition and innovation www.smartstat.it



Linking two wor(l)ds to share value

ACADEMY ------- MARKET



Mission

- Fill the gap between the big amount of meaningfull data and the power of methodology's vanguard
- Fill the gap between the data and the information needed
- Use data:
 - to forecast,
 - to deeply know your own market,
 - to intercept signals of changes ...
- To provide companies the powerful tools to guarantee their future prosperity



The duty to innovate

"That's the way it's always been done" is often the reason to behave in a new way Quite always solutions:

- Are not written in manual
- Are not stored in paradigms
- Cannot be found in the past

We all have to:

- Think in a new way
- Look for correlations
- Use imagination
- Focus on continue confrontation with academic research



What we use

- Machine learning: all processes are developed in solution able to continously learn from the data flow to:
 - improve performance
 - identify seasonality
 - adapt to the continues changes
- Artificial Intelligence: our systems are a complex structure of software solutions capable to simulate human ability to learn from reality and to adapt to it
- Embedding of human intelligence know-how: use of Bayesian models to allow human to teach the engine how to better do its job
- Neural Network: Simulating the approach of human brain in some situation systems are able to achieve impressive results in term of performance and delivery time
- **Deep learning**: with the heavy use of neural networks we can easily develop powerful deep learning solution
- Vanguard sophisticated models: we usually develop solutions using all the bleeding edge model of the international statistics research accessing to the source code and modifying them according to our needs (for instance we have used genetics biostatistical models adapted to analyze cookies)



Innovative approaches

- Beyond one-size-fits-all solutions -> ad hoc solution
 Agnostic and continuously updated approach towards:
 - technologies
 - statistical models
- Beyond just big data -> complex data

Open mind approach using not "superclean" data and looking for innovative ideas to improve their informational power.

Crucial step is data assessment to feed models with meaningful data – to do this most innovative and sophisticated models and approach are needed (if not we get "garbage in - garbage out").

• Beyond "data science" -> Business Science

Approach situation as a real scientists.

Beyond "analytics" -> stylization

Always towards new way to see the data according to the sensibility, the time and the needs of management.

Beyond "look alike" -> functional profiling

We started from the beginning approaching our project with functional profiling.



Cloud approach

- Use resources on demand (machines or managed services)
- Use scalable container approach (Kubernates)
- Use scalable platforms (Hadoop, Spark, Kafka, Cassandra...)
- Write highly scalable code
- Provider independent (AWS, Google Cloud Platform, Azure)
- Automatic deployment (Ansible, Chef...)
- Several cost optimisation solutions



Recursive approach



Features quest







The only Statistics University in Lombardia



Advantages

- Work side-by-side with many researcher and professors in different specialisation
- A network of researchers from all the world
- Contact with all the top students in data-science in Italy



Bicocca University departments

- **Economia**, metodi quantitativi e strategie di Impresa
- Scienze economico-aziendali e diritto per l'economia
- Statistica e metodi quantitativi
- Giurisprudenza
- Medicina e chirurgia
- Psicologia
- Biotecnologie e bioscienze
- Fisica "Giuseppe Occhialini"
- Informatica, sistemistica e comunicazione
- Matematica e applicazioni
- Scienza dei materiali
- Scienze dell'**ambiente** e della Terra
- Scienze umane per la formazione "Riccardo Massa"
- Sociologia e ricerca sociale



Some cases of Al

Technology optimisation Semantic User profiling Recommendation Visual information Time series Unstructured data Ranking Image recognition BI solutions Industry optimisation Mobile app Science



Technology optimisation



Big data delivery

- **Request**: An alternative to current solution that delivered the day by day needed information in more than a week.
- **Approach**: Using big data platform (Cassandra + Hadoop) we designed a data model that fit the need and we ingested all their data.
- **Results**: a solution which gives the result in less then 4 hours .



Cloud orchestrator

- Request: Use cloud services to easily scale and reduce IT effort but significantly reduce costs
- Approach: Move all application in highly scalable infrastructure, switch on and off resources according to real needs and buy them in bidding
- **Results**: Cost saving up to more than 80%



Time Machine backup on cloud

- **Request**: Create a fast and reliable backup solution able to recover the situation in each moment in the past, occupying less space as possible and keeping cost under control
- Approach: Using S3 with all its power
- Results: A solution able to return to the situation of each moment of the past which occupies just the space of different versions of files



Real time big data modeling

- **Request**: A solution able to update tens of millions of profile everyday, to calculate a vector of score for each ones and to deliver "Call to Action" in realtime on webpages.
- **Approach**: Implement Kafka + Hadoop + Spark for profiling and a smart caching solution for the delivery.
- **Results**: Our solution import data from many sources (Webtrekk, DMP, CRM), recalculate all the score during the night in less than 3 hours and the call to action engine gets the information in less than 5ms on every impression.



■ Semantic



Sentiment in political themes - 1

- Request: An observatory for opinion on social network about political subjects
- **Approach**: Using a mix of text mining, semantic and sentiment algorithm and high customised mathematical model we create an engine which analyse what people says in Twitter about themes given in input by our customer
- **Results**: a solution which gives the ratio between **positive and negative sentiment on every theme** the politicians are interested in.



Sentiment in political themes - 2



| TWEETS | KEYWORD/#HASHTAG | % | QTA' | TIPO ACCOUNT |
|--------|-----------------------|--------|------|---------------|
| 151 | lavoro | 98,6% | 4779 | Generico |
| 47 | turismo | 1,4% | 66 | Istituzionale |
| 35 | sport | 100,0% | 4845 | TOTALE |
| 18 | sharing | | | |
| | #sanità | | | |
| | #RegioneLombardia | | | |
| | territorio | | | |
| | #Lnews | | | |
| | immigrazione | | | |
| | salutile | | | |
| | #Formazione | | | |
| | #welfare | | | |
| | Dote Scuola | | | |
| | DoteUnicaLavoro | | | |
| | #Ticket | | | |
| 160 | RECORDS TOTALI | | | |
| | | | | |
| | o be he | | | |
| | azi blic | | | |

| lavoro turismo sport | Persone e famiglie | Casa | Salute e prevenzione | Scuola e formazione | Lavoro | Trasporti | Sicurezza | Associazionismo e volonta | Imprese | A mb ie n te | Territorio, ed ilizia e pianif | Infrastrutture e Opere pul | Turismo | Sport e Benesse re | Arte e cultura | w N N rilevanza |
|----------------------------|--------------------|------|--|---------------------|--------|-----------|-----------|---------------------------|---------|--------------|--------------------------------|----------------------------|---------|--------------------|----------------|-----------------|
| sharing | ٠ | | | | | ۲ | | | | ٠ | | ٠ | ٠ | | | 5 |
| #sanità | ۰ | | ٠ | | | | | | | | | | | ٠ | | 3 |
| #RegioneLombardia | • | ٠ | ٠ | ٠ | ٠ | • | • | ٠ | ٠ | ٠ | • | • | ٠ | • | ۲ | 15 |
| territorio | | | | | | | | | | ٠ | • | ٠ | | | | 3 |
| #Lnews | • | ٠ | ٠ | ٠ | ٠ | • | ٠ | ٠ | ٠ | ٠ | ٠ | ٠ | ٠ | ٠ | ٠ | 15 |
| immigrazione | | | ٠ | | ٠ | ٠ | • | ٠ | | | | ٠ | | | | 6 |
| salutile | ٠ | | • | | | | | | | | | | | | | 2 |
| #Formazione | | | | ٠ | | | | | | | | | | | | 1 |
| #welfare | • | | ٠ | | | | | | | | | | | | | 2 |
| Dote Scuola | ٠ | | | ٠ | | | | | | | | | | | | 2 |
| DoteUnicaLavoro | ٠ | | | | ٠ | | | | ٠ | | | | | | | 3 |
| #Ticket | • | | | | | | | | | | | | | | | 2 |



Fake news identification - 1

- **Request**: Create a model able to assign a score to every news on the Web to misure the probability that it is a fake news.
- **Approach**: Feeding AI models with data from semantic analysis and technical data of the page we create an engine able to answer to every URL analysis request with a "Fake news index".
- **Results**: more than 70% of fake news and less than 5% of not marked news in the top 25% higher score.



Fake news identification - 2






Topic identification - 1

- **Request**: To automatically tag thousands of articles with the specific topics treated in the texts, without any deterministic dataset and using whichever taxonomy
- **Approach**: Use a ChatGPT approach, the engine browse the web learning how to identify specific and specialistic topics.
- **Results**: Articles and websites tagged without any human effort and no need to use old "linguistic" approach (ten times less expense).



Topic identification - 2





Figure source: Blei, D. M. (2012). Probabilistic topic models. Communications of the ACM, 55(4), 77-84.



User profiling



IAB categories click optimisation - 1

- **Request**: increase the click rate on banners on top of the Google optimisation, having information of just 30% of traffic of campaigns, dividing users in 5 clusters for each of the first level of IAB categorization (customer is not able to perform a one-to-one delivery)
- **Approach**: create high significant profile of each cookie using semantic and classifications and create sophisticate models to predict the click rate of each user for each category.
- **Results**: Increase in quite all categories, and in the most focused one the click rate is **300%** the former one.



IAB categories click optimisation - 2





Campaign click optimisation - 1

- **Request**: increase the click rate on banners for their campaign.
- **Approach**: create high significant profile of each cookie using semantic and classifications and create sophisticate models to predict the click rate of each user for each category.
- **Results**: The result of our cookies are between 300% and 700% our competitor's results.



Campaign click optimisation - 2





Cookies profiling - 1

- **Request**: Identify interests, propensity, changes for anonymous and logged users of a website
- **Approach**: use cookies profile created from the navigation history to identify his interests (all life, medium period and recent) to help companies to propose the needed things in the right moment.
- **Results**: Capability to intercept **continuous needs** (a golf player or philatelic), **changes** in life (just married or the birth of a son) and **immediate needs** (looking for a car or for new insurance).



Cookies profiling - 2









Antichurn models - 1

- **Request**: predict the churn probability of each customer just according to their browsing behaviour outside our clients's website (wherever are its banners). No info on their sociodemo, their contract. In this very first step, no distinction between recent and distant browsing behaviour.
- **Approach**: A machine learning system feeded with a very smart profiling of users according to the needs.
- **Results**: the last quantile has 400% the users of the first one. Now it is ready to regulary enrich the CRM system with new KPI.



Antichurn models - 2





Customers clustering - 1

- Request: Identify the main clusters in the customer base using their behaviour on TV
- **Approach**: Create profile of hundreds of features for each customer and after a deep analysis of the correlations we use a centroid-based clustering.
- **Result**: We identified a easy process that allows to decide how many clusters and which features to use and it creates best clusters, gives different intelligent measures to evalute the result and allows to navigate each cluster showing how it differs in the other non-selected features.



Customers clustering - 2





Customers identification - 1

- **Request**: Identify the profiles of the user in front of each TV using the infos of the history of programs viewed.
- **Approach**: Create a smart algorithm to create a proxy of the probability of each segment for each views, an intelligent algorithm to estimate the probability of each segment for each television and identify a dynamic threshold to assign a target to a television
- Result: An engine capable to assign the correct number of each segment in the audience (error from 0% to 3%).



Customers identification - 2

| TPR Tr | FPR Fa | dist | Precision - | Recall - | Accuracy | Delta A |
|--------|---|---|---|---|---|---|
| 53% | 17% | 0,25 | 53% | 53% | 75% | 0% |
| 53% | 14% | 0,27 | 53% | 53% | 78% | 0% |
| 59% | 32% | 0,19 | 59% | 59% | 64% | 1% |
| 42% | 19% | 0,16 | 41% | 42% | 72% | 2% |
| 64% | 15% | 0,34 | 62% | 64% | 79% | 2% |
| 41% | 18% | 0,17 | 43% | 41% | 72% | 3% |
| 43% | 17% | 0,18 | 44% | 43% | 73% | 3% |
| 42% | 20% | 0,16 | 44% | 42% | 70% | 3% |
| 60% | 38% | 0,16 | 58% | 60% | 61% | 3% |
| | TPR Tr 53% 53% 59% 42% 64% 41% 43% 42% 60% | TPR Tr FPR Fa 53% 17% 53% 14% 59% 32% 42% 19% 64% 15% 41% 18% 43% 17% 42% 20% 60% 38% | TPR Tr FPR Fa dist 53% 17% 0,25 53% 14% 0,27 59% 32% 0,19 42% 19% 0,16 64% 15% 0,34 41% 18% 0,17 43% 17% 0,18 42% 20% 0,16 60% 38% 0,16 | TPR TrFPR FadistPrecision -53%17%0,2553%53%14%0,2753%59%32%0,1959%42%19%0,1641%64%15%0,3462%41%18%0,1743%43%17%0,1844%42%20%0,1658% | TPR TrFPR FadistPrecisionRecall -53%17%0,2553%53%53%14%0,2753%53%59%32%0,1959%59%42%19%0,1641%42%64%15%0,3462%64%41%18%0,1743%41%43%17%0,1844%43%42%20%0,1658%60% | TPR TrFPR FadistPrecisionRecall -Accuracy53%17%0,2553%53%75%53%14%0,2753%53%78%59%32%0,1959%59%64%42%19%0,1641%42%72%64%15%0,3462%64%79%41%18%0,1743%41%72%43%17%0,1844%43%73%42%20%0,1658%60%61% |



Socio-demo segmentation - 1

- Request: Identify gender and age of anonymous cookies
- **Approach**: Use the deterministic data of customers to create a powerful model that is able to determine the age and gender of anonymous prospects according to their navigation profile.
- First result: With the very first model we got very good results: dividing all the cookies in males and females, in every group there are double the number of the other gender.



Socio-demo segmentation - 2





Market Analysis from cookies - 1

- **Request**: Use cookies' anonymous and aggregated data to create valuable information
- Approach: Use the big amount of information collected by cookie analysis to identify how particular target (ex: people interested in cosmetics) differs from the mean of population,
- First result: With a very smart approach we can get a map to show how to act for every kind of target.



Market Analysis from cookies -2

Cosmetics







Recommendation



Marketing recommendation - 1

- **Request**: Create a propensity model to help Marketing to identify the best target of a campaign.
- **Approach**: We used all data gathered from all the properties of our client to create a profile of thousands of features.
- **Results**: A solution integrated in the marketing UI to help Marketing suggesting solution but also capable to deliver the best optimisation without any human decision.



Marketing recommendation - 2





Editorial recommendation - 1

- **Request**: Create a propensity model to populate a box of "chosen for you".
- **Approach**: We use three engines. A themes collector which gathers tendencies and trends from the web, e semantic engine which define very precise profile of contents and a statistical engine which provide propensity models.
- Results: Over 2 times better then former engine



Editorial recommendation - 2

C:You might be intrigued by...



29/09/2016 | DW News CSU refugee remark chills church relations

C:You might enjoy...



19/12/2016 | Global 3000 Principe – Looking to a plastics-free future



26:00

12/02/2016 | PopXport Scooter: The eurodance masters' new album

25/05/2017 | In Good Shape

In Good Shape - Yoga







30/06/2016 | In Good Shape Joint pain and Ayurvedic therapy

E-commerce recommendation - 1

- Request: Create different engines to propose the best set of products for each single user in different part of the site:
 - home page "most suitable for you", "similar to previuosly viewed products", "offers for you", "most sold"
 - product page: "alternatives" and "to buy together"
- **Approach**: a mix of statistical models and very customized algorithm with a deep knowledge of e-commerce logics.
- **Results: Over 6 times better than former engine.**



E-commerce recommendation - 2



Sinte

Home page sorting - 2





Internal search optimisation - 1

- **Request**: A powerful search engine which could give in real-time the results in order of matching (using also similarity algorithms) and all possible filters at the same time.
- **Approach**: An advanced mix of full text and structured data search solution together with high optimisation of indexes and auto-learning models based on recommendation engine.
- Results: +22% page viewed per session



Internal search optimisation - 2



Sinte

Visual information



Web Analytics - 1

- **Request**: To find a new way to represent the web logs of anonymous users on their site(s).
- **Approach**: Using our customisation of Kohonen maps (neural maps) we realise a innovative representation.
- Results: New solution which was also published in a specialised magazine (DATAvalue)



Web Analytics - 2





Marketing map - 1

- **Request**: To find a way to use Nielsen's Data of investment in advertising of Italian companies.
- **Approach**: Using our customisation of Kohonen maps (neural maps) we realise a meaningful representation of a multidimensional environment in a human readable two dimensional map.
- Results: Innovative solution which delivers regularly the maps used constantly by the management to decide strategies.



Marketing map - 2

Automotive

Fashion





Magazines

Newspapers

Out of home

Internet



Touristic/houshold maps - 1

- **Request**: Visualizing the «territorial vocation» of Milan
- **Approach**: Use open data to create a multilayer visualisation map
- **Result**: An innovative tool able to "read" the territory in a new way



Touristic/houshold maps - 2

| Tempo Libero: | Istruzione: |
|---------------------------------------|-------------------------------------|
| 3 | a a |
| -1 0 1 2 3 | |
| Impianto sportivo | ☑ Primaria |
| Centro commerciale | Secondaria I grado |
| ☑ Cinema e teatro | Secondaria II grado |
| ✓ Locale di spettacolo | |
| ✓ Locale di ristorazione | Salute: |
| | -1 2 3 |
| Infanzia: | -1 0 1 2 3 |
| | ✓ Ospedale |
| -1 0 1 2 3 | Farmacia |
| Asilo nido | Medico generico |
| Scuola dell'infanzia | Medico pediatra |




Time series



Temporal investment segmentation - 1

- **Request**: to identify temporal investment patterns, to support timely selling actions.
- **Approach**: a tool implementing statistical tests and clustering algorithms, to cluster investment behaviors and visualize them.
- Result: This tool is now part of an IMT (Informational Marketing Tools)



Temporal investment segmentation - 2

| R IGPDecaux | - IMT Informational Marketing | Tool - PATTERN TEMPORALI 🗕 🗖 💌 |
|------------------|-------------------------------|--|
| Mese-anno inizio | Selezione settore | Selezione canale di comunicazione |
| 1 2011 | O ABBIGLIAMENTO | ○ CINEMA |
| O 2 O 2012 | | ○ FREEPAYPRESS |
| O 3 O 2013 | ALIMENTARI | O INTERNET |
| 0 4 0 2014 | O BEVANDE/ALCOLICI | OUTOFHOME |
| 0 5 0 2015 | CURA PERSONA | OPERIODICI |
| 0 6 0 2016 | | |
| 07 0 2017 | | |
| 0 8 0 2018 | O ENTI/ISTITUZIONI | |
| 0 9 0 2019 | O FARMACEUTICI | O TOTALE |
| 0 10 0 2020 | O FINANZA/ASSICURAZIONI | O STAMPA |
| 0 11 0 2021 | GESTIONE CASA | O IGPNET |
| 0 12 0 2022 | GIOCHI/ARTICOLI SCOLASTICI | Selezione p-value filtro per runs test (0-1) |
| | INDUSTRIA/EDILIZIA/ATTIVITA' | 0.81 |
| Mese-anno fine | INFORMATICA/FOTOGRAFIA | |
| 0 1 0 2011 | | |
| 0 2 0 2012 | | Selezione del numero di cluster (1-20) |
| 0 3 0 2013 | | 8 |
| 0 4 0 2014 | | |
| O 5 🖲 2015 | | |
| 0 6 0 2016 | | RUNS TEST |
| 0 7 0 2017 | O TOILETRIES | GENERAZIONE CLUSTER |
| 0 8 0 2018 | O TURISMO/VIAGGI | |
| 0 9 0 2019 | O VARIE | 5 |
| 0 10 0 2020 | O LOCALE | ICP Docaux |
| 0 11 0 2021 | O DI SERVIZIO | IGF Decaux |
| 12 O 2022 | | comunicazione esterna |









Meteo forecasting - 1

- **Request**: To get a reliable forecast of meteo big events that helps authorities to be prepare to face natural disasters
- **Approach**: Use all the available forecasts from different services to create an intelligent algorithm able to provide a robust forecast.
- **Result**: An important solution that gives an index of potential alert for each risk on every geographical area.



Meteo forecasting - 2







6

- 5

- 3

- 2

Restaurants forecasting - 1

- **Request**: A system able to continuously predict the revenues in the next two weeks
- **Approach**: Using advanced time series models and giving a lot of external features (holidays, weather, sales periods, Lent, Ramadan, soccer matches ...) we realize a solution able to give trend and forecasting of the revenues per each days in the future
- **Results**: forecast the revenues of each restaurant with median absolute error of 4.19% in the last (the 14th) day in the future.



Restaurants forecasting - 2







E-commerce forecasting - 1

- **Request**: A system able to predict sell in the next months divided by type of product for each brand's shop.
- **Approach**: Embedding our client's know-how and external events in time series models we realize a solution able to give trend and forecasting of the sells.
- **Results**: Trhee customizable engines (from the simplest to the more complex) able to forecast the revenues of each brand just changing the data feed.



E-commerce forecasting - 2



Regressors: S=Sales C=Calendar F=Festivity A=Autoregression



Support advertising investment - 1

- **Request**: A solution that take in input the budget and the acceptable ranges of quotas for each media and suggest the best mix of investment in advertisting to optimize revenues.
- **Approach**: A very advanced mix of time series methodologies studies data from the past and simulate all possible scenarios to calculate the best answer.
- **Results**: A web application where continuously feeded from the data of investment and economic results and able to receive the question of the users and simulate the future according to the requests. Moreover it can find autonomously the the best possible investment for each media (TV, Web, OOH...) reducing investment and increasing revenues



Support advertising investment - 2











Instructured Data



Web crawling - 1

- **Request**: Get unstructured informations from web (articles, posts, advertising, photos...) transforming them in structured data for analysis
- **Approach**: Create a very intelligent crawler capable of acting and "thinking" as human.
- Result: An engine that collect 4 times articles than the best competitor and collect advertisement where no one else succeeded



Web crawling - 2



| 19-02-2013 [from | 01-12-2012 to | 31-12-2012] |
|------------------|---------------|-------------|
|------------------|---------------|-------------|

| | Chanel | Dior | Total |
|-----------------|--------|------|-------|
| Italy | 85 | 257 | 342 |
| D.Repubblica.it | 28 | 35 | 63 |
| Elle.it | 4 | 36 | 40 |
| Grazia.it | 46 | 84 | 130 |
| MarieClaire.it | 0 | 52 | 52 |
| Repubblica.it | 0 | 8 | 8 |
| Style.it | 0 | 42 | 42 |
| VanityFair.it | 7 | 0 | 7 |
| total | 85 | 257 | 342 |

19-02-2013 [from 01-12-2012 to 31-12-2012]

| | Chanel | Dior | Total |
|------------|--------|------|-------|
| Beauty | 123 | 0 | 123 |
| Fragrances | 0 | 339 | 339 |
| total | 123 | 339 | 462 |

19-02-2013 [from 01-12-2012 to 31-12-2012]

| | header | footer | popup | lateral | page body | background/skin | Total |
|-----------------|--------|--------|-------|---------|-----------|-----------------|-------|
| Italy | 35 | 0 | 0 | 176 | 36 | 10 | 257 |
| D.Repubblica.it | 35 | 0 | 0 | 0 | 0 | 0 | 35 |
| Elle.it | 0 | 0 | 0 | 30 | 0 | 6 | 36 |
| Grazia.it | 0 | 0 | 0 | 50 | 34 | 0 | 84 |
| MarieClaire.it | 0 | 0 | 0 | 52 | 0 | 0 | 52 |
| Repubblica.it | 0 | 0 | 0 | 4 | 0 | 4 | 8 |
| Style.it | 0 | 0 | 0 | 40 | 2 | 0 | 42 |
| total | 35 | 0 | 0 | 176 | 36 | 10 | 257 |

Dior

Dies

19-02-2013 [from 01-12-2012 to 31-12-2012]

| | Days | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | Positions |
|-----------------|------|----|------------|-------------|--------------|--------------|----|----|----|----|----|----|-------------|------------|-------------|-------------|------------|-------------|------------|------------|-------------|-------------|----|----|----|----|----|----|----|----|----|----|-----------|
| Italy | | 0 | 18 | 26 | 31 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 26 | 23 | 19 | 8 | 12 | 7 | 22 | 7 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 257 |
| D.Repubblica.it | 5 | | 7 (46%) | 7 (41%) | 7 (33%) | 7 (25%) | | | | | | | | 7 (25%) | | | | | | | | | | | | | | | | | | | 35 |
| Elle.it | 9 | | | 1 (25%) | 3 (37%) | 4 (18%) | | | | | | | | 5 (20%) | 4 (33%) | 4 (40%) | | | | 9 (52%) | 3 (60%) | 3 (60%) | | | | | | | | | | | 36 |
| Grazia.it | 12 | | 6 (60%) | 13 (21%) | 6 (54%) | 5 (38%) | | | | | | | 14 (22%) | 8 (57%) | 14 (21%) | 11 (57%) | | | 3 (60%) | (100%) | 2 (66%) | (100%) | | | | | | | | | | | 84 |
| MarieClaire.it | 14 | | 3 (50%) | 3 (50%) | 3 (100%) | 3 (1.00%) | | | | | | | 5 (62%) | 6 (20%) | 5 (35%) | 4 (36%) | 4 (33%) | 4 (100%) | 4 (50%) | 3 (33%) | 2 (100%) | 3 (100%) | | | | | | | | | | | 52 |
| Repubblica.it | - 4 | | 2 (20%) | 2 (20%) | 2 (20%) | 2 (20%) | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| Style.it | 6 | | | | 10 (100%) | 9 (47%) | | | | | | | | | | | 4 (80%) | 8 (66%) | | 9 (42%) | | 2 (100%) | | | | | | | | | | | 42 |

19-02-2013 [from 01-12-2012 to 31-12-2012]

|).Repubblica.it [Italy] | | | | | | | | | | | |
|-------------------------|--------|------|-------|--|--|--|--|--|--|--|--|
| | Chanel | Dior | Total | | | | | | | | |
| Oggetto del giorno | 4 | 5 | 9 | | | | | | | | |
| Oggi scelgo | 4 | S | 9 | | | | | | | | |
| Bellezza | 4 | 5 | 9 | | | | | | | | |
| Look | 4 | 5 | 9 | | | | | | | | |
| Vintage | 4 | 5 | 9 | | | | | | | | |
| Moda | 4 | 5 | 9 | | | | | | | | |
| Design | 4 | 5 | 9 | | | | | | | | |
| total | 28 | 35 | 63 | | | | | | | | |



Listening of the Web - 1

- **Request**: Detect and measure customers' perception of the service from Internet.
- **Approach**: Using a very powerful crawling engine, human trained semantic and sentiment algorithm and innovative mathematical model developed by us we create an engine which analyse what people says in Internet and social networks identifying the type of problem and where it is.
- **Results**: a solution which gives an hourly feed of information about: the problem, the devices impacted, the geolocation and the environment. Tested in production it **detect and correctly identify in real time more the 90%** of the problems.



Listening of the Web - 2





Advertising observatory - 1

- Request: Get a map of advertising online to understand market changes and to intercept clients who are investing in advertising.
- Approach: Use our crawler to constantly monitor the advertising on the web detecting websites, page level, advertiser, product, banner position and frequency, giving a daily report.
- Result: An engine that collect the all investors in advertising both in (inter)national sites and in local sites (about what there aren't even aggregated informations)



Advertising observatory - 2





Corriere della sera



Dazn





Campaign observatory - 1

- Request: Monitor web campaigns made by the own brand and competitors.
- **Approach**: Use our crawler to collect and structure data detecting used keywords, type of communication, periods covered..
- Result: An webapp where companies can have an complete overview of the present and past campaigns on the web but also deep dive to see each single communication and landing page.



Campaign observatory - 1



| Camp | agne con Brand × | | | | | | |
|------|------------------|------------------------------|---------------|------------------------|---------------------------|-----|---|
| | 1 | 🔍 🦷 😵 Elimina filtri colonni | Esporta - | | | | |
| | Prima data | Ultima data 🗼 | Brand | Verticals | Keywords | Url | Titolo |
| 2 | 25-05-2024 03:56 | 28-05-2024 03:50 | TIM | Connessione B2B | TIM Internet aziendale, | ۵ | Premium Business Fibra |
| 1 | 27-05-2024 23:59 | 27-05-2024 23:59 | Vodafone | Connessione B2C | Vodafone Offerte WiFi | ٩ | Offerte Internet Casa: Fibra e ADSL, TV, FWA |
| 1 | 27-05-2024 23:50 | 27-05-2024 23:56 | Vodafone | Connessione B2C | Vodafone adsl, Vodafon | ٩ | Offerte Internet Casa: Fibra e ADSL, TV, FWA |
| 1 | 26-05-2024 11:58 | 27-05-2024 12:16 | Sodexo | Ticket restaurant | Sodexo buoni pasto car | ۵ | Richiedi un preventivo |
| 1 | 25-05-2024 12:07 | 27-05-2024 12:11 | Sodexo | Ticket restaurant | Sodexo Buoni pasto, S | 0 | Richiedi un preventivo |
| 1 | 27-05-2024 11:01 | 27-05-2024 11:01 | Segugio.it | Energia B2C | Soly offerte gas | ۵ | segugio.it |
| 1 | 25-05-2024 10:34 | 27-05-2024 10:58 | Wind Tre | Energia B2C | Fotovoltaico.it Luce e g | ٩ | WINDTRE Luce e Gas: le offerte per il mercato libero |
| 1 | 25-05-2024 04:53 | 27-05-2024 07:10 | A2A | Energia B2C | Edison Offerte luce e g | ٩ | Casa |
| 1 | 27-05-2024 04:32 | 27-05-2024 04:32 | Eni Plenitude | Energia B2C | Eni Plenitude Business | ۵ | Link Business offerta luce e gas per la tua impresa |
| 1 | 27-05-2024 04:30 | 27-05-2024 04:30 | Eni Plenitude | Energia B2C | Eni Plenitude eolico | ٩ | Eni Plenitude: Plenitude, servizi e offerte per Casa e Business |
| 1 | 26-05-2024 11:59 | 26-05-2024 11:59 | Sodexo | Ticket restaurant | Sodexo buoni carburante | ٩ | richiedi un preventivo! |
| 1 | 25-05-2024 11:54 | 26-05-2024 11:56 | Sodexo | Ticket restaurant | Sodexo iva, Sodexo per | ٩ | È molto più di un Buono Acquisto |
| 1 | 26-05-2024 10:51 | 26-05-2024 10:52 | Sorgenia | Energia B2C | Soly Luce e gas, Soly O | ٩ | Offerte Casa Luce e Gas Preventivo |
| 1 | 26-05-2024 07:49 | 26-05-2024 07:49 | NeN | Fotovoltaico | NeN fotovoltaico con sc | ۵ | Eccoti 100 € di sconto se attivi luce e gas |
| 1 | 31-03-2024 06:02 | 26-05-2024 06:23 | Edison | Energia B2B, Energia B | Edison Business, Ediso | ٩ | Edison World Business Luce e Gas |
| | 12-05-2024 04:28 | 26-05-2024 06:16 | Edison | Energia B2C | A2A fotovoltaico, Ediso | ٩ | Offerta Energia con Bonus di 25€ |
| 1 | 03-03-2024 05:28 | 26-05-2024 06:14 | Edison | Energia B2C | Edison Energia, Edison | ٩ | Offerta Edison Dynamic Luce e Gas |
| 1 | 19-03-2024 05:48 | 26-05-2024 06:11 | Edison | Energia B2C | Edison fotovoltaico, Eni | ٩ | Offerta Fotovoltaico e Batteria |
| 1 | 23-03-2024 04:25 | 26-05-2024 04:51 | Edison | Energia B2C | Eni Plenitude Luce e ga | ۵ | Offerta Clienti Mercato Tutelato |
| 1 | 25-05-2024 11:57 | 25-05-2024 11:57 | coverflex | Ticket restaurant | UpDay buoni pasto elett | ۵ | Buoni pasto: Tutte le info e i vantaggi |
| 1 | 25-05-2024 07:48 | 25-05-2024 07:48 | NeN | Fotovoltaico | NeN fotovoltaico con sc | ٩ | Eccoti 100 € di sconto se attivi luce e gas |
| 1 | 23-03-2024 05:31 | 25-05-2024 06:16 | Edison | Energia B2C | Edison Energia, Edison | ٩ | Edison World Plus Luce e Gas |
| 2 | 23-05-2024 05:47 | 23-05-2024 05:47 | Edison | Energia B2C | Edison Offerte luce e gas | ٩ | Offerta con Bonus di 25€ |
| | 20-05-2024 06:04 | 20-05-2024 06:43 | Edison | Energia B2C | Edison offerte gas, Edis | ٩ | Offerta con Bonus di 25€ |



(Un)structured data discovery - 1

- **Request**: Identify the content of files in the company's repository to discover sensible data for GDPR and map the file in a complete GDPR solution.
- **Approach**: Create a solution as a mix of document parsing, regular expressions, list of data, sophisticated algorithm.
- **Result**: We are able to identify the sensible data inside Office documents, pdf, text files, images, audio and video.



(Un)structured data discovery - 2

file: excel-5.xlsx

CC Sheet1

| CC | | | | | | |
|--------------------|-----------|------------------|----------|-------|------|------|
| Column | Pattern | Description | Distinct | Count | Rows | % |
| column 1 () | P001 | email | 98 | 98 | 100 | 98% |
| column 2 () | P004 | telefono | 10 | 10 | 100 | 10% |
| | P002 | carta di credito | 1 | 1 | 100 | 1% |
| column 3 () | D001 | nome | 59 | 102 | 100 | 100% |
| | D002 | cognome | 106 | 145 | 100 | 100% |
| | D002_D001 | Nome e Cognome | 66 | 66 | 100 | 66% |
| column 4 (IBAN) | P003 | iban | 51 | 51 | 99 | 51% |
| | P004 | telefono | 24 | 48 | 99 | 48% |
| column 5 (nomi) | D001 | nome | 53 | 95 | 97 | 97% |
| | D002 | cognome | 46 | 84 | 97 | 86% |
| column 6 (cognomi) | D002 | cognome | 61 | 61 | 100 | 61% |
| | D001 | nome | 7 | 7 | 100 | 7% |
| column 11 (null) | P004 | telefono | 1 | 48 | 74 | 64% |

| Pattern | Description | Distinct | Count |
|-----------|------------------|----------|-------|
| P001 | email | 98 | 196 |
| P002 | carta di credito | 1 | 2 |
| P003 | iban | 51 | 51 |
| P004 | telefono | 58 | 116 |
| D002_D001 | Nome e Cognome | 66 | 212 |
| D001 | nome | 59 | 306 |
| D002 | cognome | 106 | 435 |

| Pattern | Description | Value | Count |
|---------|-------------|--|-------|
| P001 | email | aaron_ketterl@principledoman.com | 2 |
| P001 | email | adanruegger@gmail.com | 2 |
| P001 | email | adena-corpeno@yandex.com | 2 |
| P001 | email | adrienzeinert@needrontosportiks.com | 2 |
| P001 | email | agatha_mellom@hotmail.com | 2 |
| P001 | email | agnus_newbill@gmail.com | 2 |
| P001 | email | agueda-perina@gmail.com | 2 |
| P001 | email | agustinadally@gmail.com | 2 |
| P001 | email | aidacrotzer@yahoo.com | 2 |
| P001 | email | alanmondoux@yahoo.com | 2 |
| P001 | email | aleciaostlie@gmail.com | 2 |
| P001 | email | alene_straube@darlonnigga.com | 2 |
| P001 | email | aleshia-culcasi@gmail.com | 2 |
| P001 | email | alex_faddis@aol.com | 2 |
| P001 | email | alix-walat@andertrapvostan.com | 2 |
| P001 | email | alma_kacic@gmail.com | 2 |
| P001 | email | almeta_sampley@gmail.com | 2 |
| P001 | email | alonzo_berumen@aikazemi.com | 2 |
| P001 | email | alonzoree@domainanalyticsart.com | 2 |
| P001 | email | altha-middents@gilmorestradingsolution.com | 2 |
| P001 | email | alvaeans@isthereyou.com | 2 |



Data Masking - 1

- Request: A solution able to identify which kind of (personal) data are in the company's repositories (databases, filesystems ...) and to mask them in different way according to different needs.
- **Approach**: Using a mix of innovative solutions to read and write data from different sources and analyse them in a big data environment to easily scale.
- Result: A solution capable to analyse huge amount of data in few minutes, using AI to reduce false positive and false negative.



Data Masking - 2









Sales-force evaluation - 1

- **Request**: Find a way to compare performance of hundreds of business agents engaged in different areas, different clients (**Carrefour**, **Auchan**...) and different part of the catalogue.
- **Approach**: Study a new model that scientifically balance advantages and disadvantages according to data, "playing all agents in the same field".
- **Result**: A new indispensable tool: a map with recalculated absolute and relative margin where our customer could really compare the performance.



Sales-force evaluation - 2





Prospecting - 1

- **Request**: To sobstitute former systems which give a score of probability to acquire each prospect.
- **Approach**: Using ordinal variables models (typical of social science) we developed a revolutionary solution that:
 - asks to human inputs more similar to their way to think
 - creates a score mathematically correct
- **Results**: a new model able to identify company that will make the 90% in a group 5 times more narrow than the former model.



Prospecting - 2





Suppliers ranking - 1

- **Request**: An application to analize and evaluate automatically suppliers and keep them under costant control
- Approach: Developing a lot of connector to multiple sources and an AI solution to calculate KPIs
- **Results: Thousands of suppliers** under continue **control** with a little human effort and a smart alert system to help fast interventions



Suppliers ranking - 2







Image recognition

Handwriting recognition - 1

- **Request**: Automatically identify the price and the date from the images of taxi receipts sent by employers using their cellphones.
- Approach: A mix of innovative pattern recognition solution, smart algorithms and machine learning systems to deliver the result.
- Results: the first engine identify the correct value of the invoice in 31,24% of the receipts (where the former suppliers arrived to 4%, **7,5 times better than our competitor**).



Handwriting recognition - 2

| # | file | tipo | data | value | score |
|------------|--|--------|---------------------------|----------------|---------|
| <u>135</u> | | 001_01 | /8/2018 (06/08/2018) | 14.8 (50.0) | 9999.99 |
| # | file | tipo | data | value | score |
| <u>137</u> | | 001_02 | 1848 (06/08/2018) | 18.8 (50.0) | 9999.99 |
| # | file | tipo | data | value | score |
| <u>139</u> | | 001_03 | (06/08/2018) | 9.0 (50.0) | 9999.99 |
| # | file | tipo | data | value | score |
| <u>132</u> | vi e e e e e e e e e e e e e e e e e e e | 002 | (06/08/2018) | (50.0) | |
| # | file | tipo | data | value | score |
| <u>134</u> | | 002_00 | 1748 (06/08/2018) | 6.0 (50.0) | 10.0 |
| # | file | tipo | data | value | score |
| <u>136</u> | | 002_01 | /8/2018 (06/08/2018) | 10.0 (50.0) | 9999.99 |
| # | file | tipo | data | value | score |
| <u>138</u> | | 002_02 | 63/3/2092 (06/08/2018) | 54.6 (50.0) | 9999.99 |



Image pattern recognition - 2





Production control - 1

- **Request**: In industrial environment count produced pieces to control wastes and correct shipping
- **Approach**: Use image recognition and neural network models to recognise models and count produced pieces
- Results: Accuracy 100%


Production control - 2











Farm 4.0 - 1

- **Request**: To monitor the weight of the cows in a big pharm without the need to buy a lot of weighbridges: expensive and hard to maintain.
- **Approach**: To use low cost camera and NFC ear tag to identify the correct growth of each animal with image recognition models.
- Results: A terrific saving (15 K€ vs 1 M€), quite null maintenance and more information about the growth besides the weight.



Farm 4.0 - 1







Automatic orders ingestion – 1

- **Request**: To reduce time to insert orders in the BI solution.
- **Approach**: An AI solution able to "read" orders and populate fields in the BI solution giving warnings to help people to settle the right values in case of ambiguity.
- Results: 1/10 of time needed and errors reduction to 0.



Automatic orders ingestion – 2

| ABC.pdf | - 0 × | PASALINES DT | Text | D |
|---|--|---|--|---|
| OCR RESULTS - Page 1 (55 blocks) Angle 0 | | POT CCOLC: No Pao Vin 12 2006 - Sarczo (19) Isoloment IIIFS BRGS | _ | - |
| | | Na Const Timolo Baggio per 2-3000 A Constructivity fer los 00/1900 11 - August and Provide A Constructivity r - mai info@pagatament.com An extensese, fer or 200-00011 Aprilar (1) | Paragraph | |
| 0 🔥 | RC NUTRITIONALS | en (1990/2010) 06/00/2017 PT - Per (1990/2018) en anterinterinterinterinterinterinterinteri | CASALINI S.R.L. | |
| 1 ABC Nutrition Ltd | C NOT KITTOWALD | Drdine Acquisto VIA Polygon 3.8683, 1.4207, 4.1345, 1.4207, 4.1405, 4.1405, 4.1405, 4.1405, 4.1405, 4.1405, 4.1405, 4.1405, 4.1405, | Paragraph | |
| 2 DiniL74 Knockbeag Pom Shannen Aircon | | 551947 | SEDE LEGALE: Via Paolo VI n.1 25068 - Sarezzo (BS) | |
| 5 Co.Claret Telephone +353 (0) 61 433013 | | Case conseque lessellos Eclaroza di conseque Classo securiza V114 D. F. F. RADATO - 250/367 087 INDOV1 07.00 - 12.00 | Stabilimenti: Via Don Emilio Baggio snc - 25034 Orzinuovi (Bs) Tel.0307093011 - Fax 0307090793 E- | |
| | | | - 04011 Aprilia (LT) Tel. 0692062303-0692062170 – Fax 0662062326 E-mail | |
| 1 1 MAIL Number 200 385765478 | 1 4Purchase Order 15Page 60 | | amministrazione.midi@casalinisrl.com Iscr. Trib. di Brescia 32529 - Can Soc € 2 734 400 00 Cod Fisc | |
| KromataGroup Sri | | RUGEJ CONCENTRATO ARANCIO OZ KO GO 65,0000 F950.00 | 02091980173 - Part. IVA IT00684110984 | |
| | 2 3Purchase Order Dates 2 4 FACIO 2022 | Euogo di destinazione: presso nostre magazzino oz ORZINUOVI | Paragraph | |
| 26 Email 27 Info@aromatagroup.com | 2 Brour Order Not | | Spett. | |
| | 3 Account Hell 3/ MARIATIS | | | |
| 33Line_Item.Codel 34Description | 35Quantity Unit 36Unit Price 37Net | | Paragraph | |
| 381391249 40Kanak/Aromata Banana Playour 9/5250/119 42 B20800009 | 4 1 boo Each 4 2 t4 bo | | | |
| | Text | | | |
| | | | | |
| | AromataGrou | p Sri | | |
| | Via Carolina | Romani 35 | | |
| | Туре: | | | |
| | OCR BLOC | < | | |
| | Text: | | | |
| | Via Carolin | a Romani 35 | | |
| | Confidence: | | | |
| | 100 % | | | |
| | | | | |
| | bbox: [49, 217, | 133, 217, 133, 223, 49, 223] | | |
| | bbox width: 84 | | | |
| 45 Deliver Ta | bbox height: 6 | | | |
| | | | | |
| | 461014 NFT 471405.00 | | | |
| 5 Au deliveries must be booked in with goodsin/dabce/integrals com | 48001ALVA1 49000 | | | |
| 54 Deliveries not booked in may be refused. | 52rotal gross 53ratistic | | | |
| | | | | |



BI solutions



Antichurn managment – 1

- **Request**: a tool to manage customer retention activity according to antichurn prediction models
- Approach: a completely customized interface for different type of use (Commercial team, CCO, CMO, CEO)
- Results: a high appreciated web application that has big success at the Mobile World Congress 2016



Antichurn managment – 2





Business Intelligence for food - 1

- **Request**: A easy-to-use software to manage a multi-restaurants company at-a-glance.
- **Approach**: Create a very customisable software able to adapt itself to every need of the different franchisers.
- Results: A very appreciated system used now in 45 McDonald's restaurants (number increasing)



Business Intelligence for food - 2

| ~ | Report actual VS budget (* | | | | | | | | | | | | |
|-----------------------------|---|---------|--------|---------------|-----|------------|-------|-----------------------------|-------|-----------|------------|--------------------|------|
| imenti | 🥝 Annulia 🔄 Esporta 😨 Appiorna | Anno: | 2018 👻 | Tipo: mensile | ~ | Periodo: a | gosto | Ristora | inte: | istorante | ~ | Budget: Inizio ann | 10 |
| coval mensili | | | Budget | | | | Actua | | | | Differenza | A vii B | |
| udget operativo giornaliero | | Periodo | % | YTD % | P | eriodo | % | YTD | % | Periodo | 5 | YTD % | |
| udget inizio anno | TRANSAZIONI | 0 | 0,0 | 0 | 0,0 | 23.596 | 0.0 | 208.680 | 0.0 | 23.596 | 0,0 | 208.680 0 | 0 |
| udget rolling | VENDITE TOTALI | 0 | 0,0 | 0 | 0,0 | 167.490 | 100,0 | 1.523.924 | 100,0 | 167,480 | 100,0 | 1.523.924 100 | 0 |
| osto orano stimato | VENDITE NETTE (Al netto degli H.M.) | 0,0 | 0.0 | 0 | 0.0 | 167,480 | 100.0 | 1.523.924 | 100.0 | 167,480 | 100.0 | 1.523.924 100 | .0 |
| ctual giornaliero | | | | | | | | | | | | | |
| ctual VS Budget | FOOD & PAPER COSTS | | | | _ | | | | | | | | _ |
| ctual VS Anno Precedente | Alment - Food | 0 | 0,0 | 0 | 0,0 | • | 0,0 | 0 | 0,0 | 0 | 0,0 | 0 0 | 0 |
| udget inizio anno | Past Dipendenti Scotti | 0 | 0,0 | 0 | 0,0 | • • | 0,0 | 0 | 0,0 | 0 | 0,0 | 0 0 | 0 |
| otiget roung | Carla - Pater | 0 | 0.0 | 0 | 0.0 | | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 0 | 0 |
| osto lavoro VS Anno Preced | Totale Food & Paper Cost | 0 | 0.0 | 0 | 0,0 | • | 0.0 | 0 | 0,0 | 0 | 0.9 | 0 0 | .0 |
| roduttività | GROSS PROFIT | 0 | 0,0 | 0 | 0,0 | 167,480 | 100,0 | 1.523.924 | 100,0 | 167,480 | 100,0 | 1.523.924 100 | 0. |
| rima nota | | | | | | | | | | | | | |
| stazioni | COSTI CONTROLLABILI | | | | | | | | | | | | - |
| locco inserimento actual | Costo Lavoro Crew Totale | 0 | 0,0 | 0 | 0,0 | | 0,0 | 0 | 0,0 | 0 | 0,0 | 0 0 | 0 |
| istoranti | Costo Lavoro Impresa Sala | 0 | 0.0 | 0 | 0.0 | | 0.0 | | 0.0 | 0 | 0.0 | | .0 |
| ccorpamenti | Costo Lavoro Managers Totale | 0 | 0,0 | 0 | 0,0 | | 0,0 | 0 | 0,0 | 0 | 0,0 | 0 0 | 0 |
| tenti | Totale Costo Lavoro | 0 | 0.0 | 0 | 9,0 | • | 0,0 | • | 0.0 | 0 | 0.0 | • • | .0 |
| ana mana | Pubblicità McOpCo | 0 | 0.0 | 0 | 0.0 | 6.699 | 4.0 | 60.957 | 4.0 | 6.699 | 4,0 | 60,957 4 | 0. |
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| | CASH FLOW STORE | 0 | 0.0 | | 9/0 | 152,407 | 91,0 | 1.586.771 | 91,0 | 152.407 | 91.0 | 1.316.721 91 | 19 L |





HR management - 1

- **Request**: A solution to manage employers so that paper and time lost are reduced quite to zero.
- **Approach**: A web application that automatize all possible procedure and interact directly to all employers through their smartphones.
- **Results**: Reduce of errors, situation under constant control, speedup of procedures and **more time for HR** to follow employers.



HR management - 2

| | 400 | - Name 2 Like | | 10 0. | Charles With | auto carry | | | | | | | | |
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GDPR managment - 1

- **Request**: A software able to help DPO to compile the GDPR information and to provide automatically all the documentation required.
- **Approach**: Create a very versatile solution able to fit different needs, to be feeded by syncronized solution, to automate the discovery and to create easy-to-consult visual maps.
- Results: A very appreciated solution used now by small companies and by multinational corporations.



GDPR managment - 2





CRAL managment - 1

- **Request**: A software able to help cral employers to manage all kind of offers and products for all member.
- **Approach**: A mix of a BI software and an interactive website able to automatize all procedures reducing dramatically human effort.
- Results: Reducing of time to manage tasks from
 5 to 20 times.



CRAL managment - 2





Industry optimisation



Price algorithm - 1

- **Request**: To automatically identify the right price for an order of metal bars or plates of the dimensions requested by the customer in a e-commerce site
- **Approach**: a powerful collecting engine that gathers prices of base metal and alloys from different sources (such as London Metal Exchange and Assomet database) feeds a sofisticated algorithm that consider tens of variables (such as time to cut the metal, chippings of the cut, waste parts, the need to use fork lift, the stock ammount, the prices timeseries) to determine the correct sell price.
- **Results**: An engine in production from 2005.



Price algorithm - 2





Industria 4.0 solution - 1

- **Request**: To create a solution able to monitor all the production phases.
- **Approach**: To deveop an open solution to control all the production using Arduino's devices and Rasperry mini PCs in order to detect and record different parameteers of each machine.
- **Results**: The firm is now able to control all the processing.



Industria 4.0 solution - 2

| II | MPOSTAZIONI | | | | | COMMES | SE LAVO | RATE | | | | | VISION | IE PRODU | ZIONE | |
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| 31 🔻 | SAKURAI | | 15/05/2 | 2020 | | 15:30:00 | | 15/05/2020 |) 🔲 | 1 | 6:30:00 | | AGGI | ORNA | - | ZZERA |
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| 15/05/20 16:15:31 | 31 | in | ,00 | 1 | 15 | /05/20 16:00:51 | 31 | out | ,00, | ^ | 15/ | 05/20 15 | 49:51 | 31 | A | ,70 |
| 15/05/20 16:15:41 | 31 | in | ,00, | | 15 | 6/05/20 16:01:01 | 31 | out | ,00, | | 15/ | 05/20 15 | :50:01 | 31 | A | ,71 |
| 15/05/20 16:15:51 | 31 | in | ,00 | | 15 | /05/20 16:01:11 | 31 | out | ,00, | | 15/ | 05/20 15 | :50:11 | 31 | A | ,73 |
| 15/05/20 16:16:01 | 31 | in | ,00 | | 15 | 05/20 16:01:21 | 31 | out | ,00, | | 15/ | 05/20 15 | :50:21 | 31 | A | ,73 |
| 15/05/20 16:16:11 | 31 | in | ,00, | | 15 | 05/20 16:01:31 | 31 | out | ,00, | | 15/ | 05/20 15 | :50:31 | 31 | A | ,75 |
| 15/05/20 16:16:21 | 31 | in | .00 | | 15 | 05/20 16:01:41 | 31 | out | ,00, | | 15/ | 05/20 15 | :50:41 | 31 | A | ,72 |
| 15/05/20 16:16:31 | 31 | in | .00 | | 15 | 05/20 16:01:51 | 31 | out | 2,00 | | 15/ | 05/20 15 | :50:51 | 31 | A | ,72 |
| 15/05/20 16:16:41 | 31 | in | ,00 | | 15 | 05/20 16:02:01 | 31 | out | 3,00 | | 15/ | 05/20 15 | 51:01 | 31 | A | ,73 |
| 15/05/20 16:16:51 | 31 | in | ,00 | | 15 | /05/20 16:02:11 | 31 | out | ,00, | | 15/ | 05/20 15 | :51:11 | 31 | A | ,71 |
| 15/05/20 16:17:01 | 31 | in | .00 | | 15 | /05/20 16:02:21 | 31 | out | ,00, | | 15/ | 05/20 15 | :51:21 | 31 | A | ,73 |
| 15/05/20 16:17:11 | 31 | in | ,00, | | 15 | /05/20 16:02:31 | 31 | out | ,00, | | 15/ | 05/20 15 | 51:31 | 31 | A | ,72 |
| 15/05/20 16:17:21 | 31 | in | .00 | | 15 | /05/20 16:02:41 | 31 | out | ,00, | | 15/ | 05/20 15 | :51:41 | 31 | A | ,73 |
| 15/05/20 16:17:31 | 31 | in | .00 | | 15 | /05/20 16:02:51 | 31 | out | ,00, | | 15/ | 05/20 15 | :51:51 | 31 | A | ,72 |
| 15/05/20 16:17:41 | 31 | in | .00 | | 15 | /05/20 16:03:01 | 31 | out | ,00 | | 15/ | 05/20 15 | :52:01 | 31 | A | ,75 |
| 15/05/20 16:17:51 | 31 | in | .00 | | 15 | /05/20 16:03:11 | 31 | out | ,00, | | 15/ | 05/20 15 | :52:11 | 31 | A | ,73 |
| 15/05/20 16:18:01 | 31 | in | .00 | | 15 | /05/20 16:03:21 | 31 | out | ,00, | Н | 15/ | 05/20 15: | :52:21 | 31 | А | ,74 |
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Industrial optimization - 1

- **Request**: Find innovative algorithms to control industrial production (lines optimisation, find best settings, reduce defectiveness, assemble best teams)
- **Approach**: Collect new data and feedback according to the needs, create a central engine, design all the artificial intelligence algorithm able to deliver the information required
- **Results**: Identification of three very important aims and design of all the process to get them. In one (discards forecast) we developed a machine learning model which is able to predict very well.



Industrial optimization - 2





Publisher automations - 1

- **Request**: A software that automates all possible processes to reduce human effort and resource at minimum
- **Approach**: A multimagazine and multilanguage solution that mixes CRM, Marketing campaign, CMS, editorial flat plan and sponsors manager with the support of AI algorithm.
- **Results**: A web software that allows publishers to save costs, increase performances and grow with minimum investments.



Publisher automations - 2



Mobile app



Mobile app industry - 1

- **Request**: To develop a mobile app able to interact with industrial 24h-functioning machines
- **Approach**: a cross-platform mobile app that allows to view and modify values in the machine and a web application that comunicates both with the machines (via modbus) and with the mobile app
- **Results**: A solution that allows production firm to control all the machines from wherever and to receive push notification according to settings customizable for each machine.



Mobile app industry - 2



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| Commessa | Stato | Materiali |
|---------------------------------------|------------------------------------|--|
| Nome 7347[2021/09/23-09:05:10] | Macchina in produzione | Nome PS CRISTALLO |
| Macchina pressa 19 it 90-xl | Ultimo aggiornamento 5 days ago | Totale richiesto 720.0 Kg |
| Produzione Nome articolo | Pezzi lotto 6515/20500 | Mancante alla fine 485.4 Kg |
| Codice 202089[2021/09/23-09:05:10] | Pezzi scarti 1/5 | Consumi Media per grammo 0.247 W/g |
| Stampo Nome | Pezzi totali 6515/20000 | Media ultimi 5 cicli 1.736 kW/h |
| STFEP025 PLACCA DUNA FUN TRASP | | Totale 58.4 kW |
| 239 | Tempi Media tempo ciclo | |
| Numero impronte stampo | 18.51 s/cycle | Produzione oraria |



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Medical support app - 1

- Request: Create an app to help patients to remember the scheduling of the medicines, to track the history with the batch number, and to keep the doctor up-todate
- **Approach**: Realize an app for iOs and Android that help the patients to easy track all the time he takes the medicine and to help the pharmaceutical to monitor the needs.
- **Results**: A very useful app used by many patients.



Medical support app - 2





Smart Living - 1

- **Request**: A solution that takes data from thousands of probes and sensors ad forecast temperature and energy saving solution
- **Approach**: A big data scalable infrastructure with modern models
- **Result**: A solution that, thanks to its innovative approach, received public financing of 140.000 euro from Regione Lombardia.



Smart Living - 2







3D app game simulation - 1

- **Request**: Create an app able to simulate the real game in 3D
- **Approach**: An hard work to import or the 3D models of every pieces to reduce computational effeort of the device maintaining the image quality
- **Results**: The very first app of this genre in the world



3D app game simulation - 2















▲ Science



Meta analysis - 1

- **Request**: Find a new scientific way to measure effectiveness, efficacy and safety of drugs and medical devices already in the market, without the big cost of the clinical research.
- **Approach**: Using the big amount of data in scientific research from publications (which aren't focused on this scope) and elaborate them with innovative models able to find scientific measurement deduced from the intersection of this apparently inhomogeneous data.
- **Result**: Strong and **scientific results** with a precision comparable with the clinic research one **in less than 1/100 of costs and less than 1/10 of time**.


Meta analysis - 2







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