AI for SMEs 1-day training









Agence du Numérique





Presentation > The team



</becode>

Antoine Gilliard Al coach BeCode NFP IT trainings



Presentation > The sponsor



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European Commission Supports this training BeCode NFP IT trainings



What science fiction movie would you say is closest to today's world with regards to Al advancements?

"





Let's discuss !

What are your expectations for today?





From a scale of 1-10, how would you rate your knowledge of AI?





Objectives of the day >

- What is AI?
- Why AI is important for a SME?
- How to implement it in a company?
- Red line: Design your own project!

Agenda >

Morning

- Welcome
- General introduction to AI
- Data collection and analysis
- Coffee break
- Al models
- Ethics in Al

Afternoon

- Workshop: Using AI as a personal assistant
- Al integration strategies
- Coffee break
- Pitch preparation
- Sharing
- Debriefing and closing the day

Red line: Design your own project!

What is AI ? Overview and Applications

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From Alan Turing (1947)... >



"I believe that at the end of the century the use of words and general educated opinion will have altered so much that one will be able to speak of machines thinking without expecting to be contradicted"

...To Bill Gates (2023) >



"The development of AI is as fundamental as the creation of the microprocessor, the personal computer, the Internet, and the mobile phone. It will change the way people work, learn, travel, get health care, and communicate with each other."

Not that new >





Frank Rosenplatt (1958)

Work on the Perceptron



Two AI winters >



1974-1980





At its low point, some computer scientists and software engineers avoided the term artificial intelligence for fear of being viewed as wild-eyed dreamers >>

John Markoff, NY Times

Why now? >









Every two days we create as much information as we did from the dawn of civilization up until 2003



Eric Schmidt, Google CEO (2010)

Why now? >





Kids have it easy these days>



Moon Landing Computer: 1.024MHz CPU clock



Smart Toaster: 2.4GHz CPU clock

Why now? >





The cornerstones >



GPUs Data

be

Artificial intelligence (AI) is the **intelligence of machines** or software, as opposed to the intelligence of humans or animals. It is also the field of study in computer science that develops and studies intelligent machines. "AI" may also refer to the machines themselves.



Al vs. programming >



AI vs. Expert system >





Rule:Weight / height ²Accuracy:100%



AI vs. Expert system >



Rule:AI model decidesAccuracy:??Needs:A lot of data





Lets battle >





Al vs. Expert system >



Slow Less accurate

Fast 100% accurate











```
if email.contains("Nigeria") and
email.contains("Prince"):
    return true
else if email.contains("Free IPad"):
    return true
else if . . .
```

Example of applications >

Predicting outcomes and recognizing

patterns based on historical data



What potential? > Interview of Pr. Briganti





Automatic document processing >



Source

Drug Discovery >

FORBES > SMALL BUSINESS

AI Is Rapidly Transforming Drug Discovery

Guadalupe Hayes-Mota Forbes Councils Member Forbes Business Council COUNCIL POST | Membership (Fee-Based)

Feb 29, 2024, 10:00am EST

- CEO & Founder, Healr Solutions | MIT Lecturer | Corporate, Non-Profit, & Governmental Board Member.
- \mathbb{X}





The traditional method of identifying and validating drug targets is a lengthy and often hit-and-miss process. Al, through deep learning algorithms, can analyze vast datasets, including genomic, proteomic and clinical data, to identify potential targets more accurately and swiftly. For example, Al platforms like AtomNet use structure-based drug design to predict how different drug molecules will interact with the target, thereby enhancing the precision of drug development.


Diagnostic assistance >



Chatbots >







Robotics >



Download PDF Copy Request Quote
Reviewed by Laura Thomson

Jan 27 2022

A robot has performed laparoscopic surgery on the soft tissue of a pig without the guiding hand of a human – a significant step in robotics toward fully automated surgery on humans. Designed by a team of Johns Hopkins University researchers, the Smart Tissue Autonomous Robot (STAR) is described today in *Science Robotics*.

"Our findings show that we can automate one of the most intricate and delicate tasks in surgery: the reconnection of two ends of an intestine. The STAR performed the procedure in four animals and it produced significantly better results than humans performing the same procedure," said senior author Axel Krieger, an assistant professor of mechanical engineering at Johns Hopkins' Whiting School of Engineering.

The robot excelled at intestinal anastomosis, a procedure that requires a high level of repetitive motion and precision. Connecting two ends of an intestine is arguably the most challenging step in gastrointestinal surgery, requiring a surgeon to suture with high accuracy and consistency. Even the slightest hand tremor or misplaced stitch can result in a leak that could have catastrophic complications for the patient.

Anomaly detection - EEG >





Key impact for SMEs ? Brainstorming >



Key impact for SMEs ? Brainstorming >





Improved efficiency and productivity

Al can automate repetitive tasks, optimize processes, and streamline operations



Enhanced decision-making

Al can **provide** valuable **insights** and **analysis** based on large datasets,



Innovation and New Opportunities

Al can help to innovate, explore novel business models, and tap into emerging markets or untapped customer segments



Personalized customer



Al can deliver personalized interactions, tailored recommendations, and improved customer experiences for clients.

_ <u>Σ</u>						
ជ		☆				
i						

Competitive advantage

Al can offer innovative products, services, or processes to gain a competitive edge.



Improved risk management

Al can analyze vast amounts of data to detect patterns, anomalies, and potential risks



Scalability and Growth

Potential

Al can enable SMEs to **scale** their **operations** efficiently.

Enhanced marketing and sales

Al can assist in analyzing customer data, predicting consumer behavior, and optimizing marketing and sales strategies to target the right audience, increase conversions, and drive revenue growth.



Cost Savings

Al automation can **reduce** manual **efforts**, **minimize errors**, and **optimize resource allocation**

What potential? > Interview of Pr. Briganti

Professor Giovanni Briganti predicts significant advancements in generative AI applications in healthcare, enhancing patient autonomy and improving healthcare through data analysis and treatment innovations.

Generative Al Applications: Giovanni envisions a future where generative Al applications become widespread in healthcare, covering all business cases and streamlining processes for better patient care and treatment options.

Enhanced Patient Autonomy: He foresees patients gaining more control over their health through innovative AI technologies, leading to an era where individuals can manage their health more independently.

Healthcare Improvement: Generative AI will contribute to analyzing diverse data sources, monitoring patient conditions, and inventing new treatment methods, ultimately elevating the quality of healthcare.

AI Ecosystem Evolution: The evolution of generative AI will lead to a robust ecosystem of models supporting clinical tasks, moving beyond administrative applications to more direct patient care enhancements.



Design your value proposition (15 min) >

- Imagine an AI project you could implement in your company
- What challenge would it be able to solve?

What would be the main impact?



Data collection and analysis









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Red line: Design your own project!



Data is the fuel >





Data is the fuel >



be ≰∥

Data is the fuel >



(Big) Data is the fuel >





What kind of data? >

- What are the different types of data ?
- Where to get them ?

What kind of data? >





Where do we get the data? >

- What are the different types of data ?
- Where to get them ?

Where to get the data >

- Web scraping
- Open data
- User data collection
- IoT data stream
- Generating data
- Surveys and Questionnaires



Data quality >



• Completeness

Is the required data present within the dataset? and; does it meet the objectives of the project being worked on?

• Validity

How well the data fits within predefined limits, expectations and standards?

• Accuracy

How well does the data reflect reality?



• Consistency

The same data should be consistent across different storage locations, software packages and file formats.

• Uniqueness

Features or objects should only be represented within a particular dataset once otherwise, confusion can occur.

• Timeliness

Is the data that is being worked on the latest version that is available to make appropriate interpretations?





© Twitter – @jackyalcin



High-paying occupations

ARCHITECT



POLITICIAN

FAST-FOOD WORKER

LAWYER

DISHWASHER



DOCTOR





JUDGE



ENGINEER

Low-paying occupations

JANITOR



CASHIER



TEACHER

CEO



SOCIAL WORKER



















<u>Source</u>



DÉTECTER LA LANGUE	FRANÇAIS	ANGLAIS	ARABE	\sim	
The nurse is feeling bad. He is sick \times					
Ų ●)				36 / 5000	•
ANGLAIS FRANÇA	IS ARABE	~			
L'infirmière se sent mal. Il est malade			\$		
•)					<

Data quality: sex disaggregated data >

be

Ratio of prevalence to diagnosis based on epidemiological data sources and US claims data (Jan 2019–Aug 2022)

Estimated cases diagnosed
 Estimated cases not diagnosed

Women's health conditions

Menopause¹ 8 in 10 women are not diagnosed



Erectile dysfunction⁴ 3 in 10 men are not diagnosed

Men's health conditions



Endometriosis² 6 in 10 women are not diagnosed



BPH⁵ 2 in 10 men are not diagnosed



PCOS³ 2 in 10 women are not diagnosed



5 vs 1.5

Data analysis >

- Data visualization tools (Tableau, PowerBI, Excel)
- Include advices from field experts (business knowledge)



Data cleaning >

- Remove outliers
- Dealing with missing values
- Statistical approach
- Feature engineering





Data cleaning >





What data do you need for your tool? (15 min) >

- What is the source of your data?
- Is it structured / unstructured?
- What strategy would you implement for the collection?
- Does your data contain biases?
- Would you need some cleaning process?
- What kind of analysis would you perform on the data?



Al models









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the European Union

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First techy word when you hear "AI"



Techniques vs. applications >




Supervised learning >





Labeled data

Training

Prediction

be

Supervised learning >





Supervised learning > Applications



DeepL



Supervised learning > Classic example

Teachable Machine

be

Unsupervised learning >





Unlabeled data

Training

Communities/ Groups

Prediction

Unsupervised learning > Applications







-

One of my personal favourites



https://n8python.github.io/mnistLatentSpace/

be

Generative models >







Observations

Training

Generation

be

Generative models > Applications

a Magritte painting about artificial intelligence



Describe artificial intelligence in the style of Shakespeare

Hark, fair ladies and noble gentlemen, lend ear and heed my tale, Of artificial intelligence, a marvel of our modern age, I shall unveil. A creation of the human mind, with cunning and with art, This wondrous thing, with reason, thinks, and plays its vital part.

In silken threads of code and circuits finely wrought, It mimics human thought, with wisdom, it is taught. A mind of metal and of wire, it seeks to understand, The world and all its mysteries, at its creator's hand.

Retrieved Augmented Generation (RAGs) >



be

RAGs > Microsoft Copilot



Microsoft 365	Q, Search			Q	\$?
Anne A		0			G	
reate Content		Copilot Microsoft 365 Chat				
EP Fred		Try these prompts Stay on top				
Acps	Catch up on meetings		Rewrite something			
Sopilar	Catch me up on meetings I missed yesterday	Summarize unread messages from this morning	Propose a new introduction to file			
	☐ Get up to speed List key points from file	Polish my writing Suggest edits to file to make it more concise	Catch up on comms What's the latest from person ?			
Nord Excel	OK, what can I help you with? Try one of the e	View more prompts				
and the second s	What's hot in my inbo	k right now?				

Generative models > Deep fakes



be

Other interesting ones > MeshAnything V2



be

What model is relevant for your use case? (10 min) >



Ethics in AI: Focus on the AI Act









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Red line: Design your own project!

Ethical risks > Existential

• Existential Risks (e.g. hostile super-intelligent AI)

- Need of regulation
- Societal Risks Negative impacts on society (job loss, discrimination, racism)
 - Vigilance and ethical behaviours
- Individual Risks Effects on privacy, security, health
 - ° Education and civic responsibility
- Technical risks (bugs, errors, biases)
 - ° Quality and Robustness

Existential risks >





Ethical risks > Societal

- Existential Risks (e.g. hostile super-intelligent AI)
 - Need of regulation
- Societal Risks Negative impacts on society (job loss, discrimination, racism)
 - ° Vigilance and ethical behaviours
- Individual Risks Effects on privacy, security, health
 - Education and civic responsibility
- Technical risks (bugs, errors, biases)
 - ° Quality and Robustness

Societal risks >





Ethical risks > Individual

- Existential Risks (e.g. hostile super-intelligent AI)
 - Need of regulation
- Societal Risks Negative impacts on society (job loss, discrimination, racism)
 - Vigilance and ethical behaviours
- Individual Risks Effects on privacy, security, health
 - ° Education and civic responsibility
- Technical risks (bugs, errors, biases)
 - ° Quality and Robustness

Individual risks >





Ethical risks > Technical

- Existential Risks (e.g. hostile super-intelligent AI)
 - Need of regulation
- Societal Risks Negative impacts on society (job loss, discrimination, racism)
 - Vigilance and ethical behaviours
- Individual Risks Effects on privacy, security, health
 - Education and civic responsibility
- Technical risks (bugs, errors, biases)
 - Quality and Robustness

Technical risks >





Here are some other suggestions for coping with depression:

- Stay connected: Keep in touch with friends and family, and socialize
- · Exercise: Try to exercise regularly, even if it's just a

AI Act (2024): Key principles >

- Legal framework for a safe and rights-respecting AI within the EU
- Risk-based classification with corresponding regulation
- Transparent documentation for AI decision-making



Proposal for a

Regulation of the European Parliament and of the Council Laying Down Harmonsed Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts

2021/0106 (COD)

European Commission

AI Act (2024): Risk classification >

- Unacceptable (biometric identification, face recognition...)
 - => Banned (strict exceptions)
- High (health, education, recruitment, law enforcement, critical infrastructures)
 => Strict requirements before go-to-market (transparency, data quality, robustness)
- Limited (image, sound or video manipulation)
 => Informing users
- Minimal (general AI systems)
 => No regulation,
 no national rules



High risk: health >







Q Search for Abstracts, Guidelines, Meet Search

ESMO > Newsroom > Press and Media Hub > ESMO Media Releases Man Against Machine: Artificial Intelligence is Better than Dermatologists at Diagnosing Skin Cancer

Date: 29 May 2018 Topics: Staging and Imaging; Cancer Prevention Tumour Site: Skin Cancers

Researchers have shown for the first time that a form of artificial intelligence or machine learning known as a deep learning convolutional neural network (CNN) is better than experienced dermatologists at detecting skin cancer.

High risk: health > Data privacy



High risk: health > Data privacy

Health Data Privacy: Professor Briganti expresses concerns about health data privacy and the need for giving back autonomy and value to citizens regarding their health data to ensure their willingness to share it.

Privacy Challenges: Giovanni compares the challenges of health data privacy to those faced with vaccination hesitancy, emphasizing the difficulty in gaining public understanding and acceptance.

Data Sharing Era: He highlights the current era of unprecedented health data sharing and the potential risks of public backlash if data use is perceived negatively.

Value and Autonomy: Giovanni stresses the importance of giving citizens control and value for their health data, suggesting that this approach will encourage data sharing for healthcare advancements.

Reimbursement Policies: He criticizes Belgium's reimbursement policies for AI-based health technologies, indicating that improving these policies could incentivize citizens to share their data.

High risk: health > Data privacy

Professor Giovanni Briganti criticizes the concept of data solidarity, advocating instead for a socio-economic model of data sharing where citizens see tangible benefits from contributing their health data.

Data Solidarity Critique: Giovanni rejects the idea of data solidarity, arguing that it lacks assurance for individuals that they will benefit from sharing their data.

Socio-Economic Model: He advocates for a model where data sharing is economically and socially beneficial, ensuring citizens receive value from contributing their health data.

Healthcare Contribution: Giovanni equates data contribution to tax contribution, emphasizing that just as taxes support the healthcare system, so should data sharing.

High risk: health > Robustness



(be





The trap of percentages



Measure of the quality of the prediction







Cat

Dog











be

But...





Precision & Recall >



Precision >






Precision >















Recall >







Use case: Tumor detection >

- App that recognizes a tumor from brain scans
- Classification: tumor or no tumor
- What is the worst case scenario?



	Tumor Predicted	No tumor predicted
	Sick patient gets warning	Sick patient gets no warning
-(\	Healthy patient gets warning	Healthy patient gets no warning

Use case: Book recommendation >

- App that recommends books for customers
- Classification: interesting vs not interesting
- What is the worst case scenario?



	Recommended Book	Not recommended Book
心	The customer likes the recommended book	The customer skips an interesting book
ſÇ	The customer does not like the recommended book	The customer skips a not interesting book



Evaluation > Conclusion

- Check the dataset
- Ensure appropriate metrics given the model
- Be critical around the scores



Make sure your tool is compliant (15 min) >

- What level of risk according to the AI act?
- What measures to take to be compliant ?



Workshop: GenAl as a personal assistant









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Red line: Design your own project!

Generative AI > Tasks





Text Summarization



Information Extraction

Question Answering

029



Text Classification



Conversation



Code Generation

Reasoning



Image generation

Prompt engineering > Definition

 \times

An instruction or series of words provided by the user to guide the AI in generating a response or creating content.

The effectiveness and accuracy of the response or image generated by the AI depend greatly on how clear and specific the provided prompt is.

The quality of the input determines the quality of the output



You are the boss >

Think of using AI as being a manager:

- **assign** the right tasks to the right Al 'team members',
- provide direction, and
- make adjustments as needed to guide them towards achieving your goals efficiently."





The golden rules >

- Start simple
- Start with a clear instruction verb (Write, Summarize, Translate...)
- Be specific
- Avoid impreciseness



Generative AI > Limitations

- Limited knowledge
- Lack of common sense
- Computational costs and power
- Potentially biased responses



Limited Knowledge > Hallucinations







O Patrimoine vivant Wallonie-Bruxelles Patrimoine vivant Wallonie-Bruxelles -...



w Wikipedia Tarte al djote — Wi…



"Makayance" is a term originating from Côte d'Ivoire, particularly in Ivorian popular slang. It refers to an ostentatious and extravagant lifestyle adopted by some individuals, often to display their wealth and success. This lifestyle can include wearing expensive designer clothes, buying luxury cars, hosting lavish parties, and generally exhibiting material possessions in a showy manner.

The term "makayance" is often associated with behaviors aimed at impressing others and attracting attention. It represents a sort of quest for social recognition through the display of material prosperity. While "makayance" may be seen as a form of success by some, it is also criticized for its superficial and materialistic nature.

\$\\D\D\\\\\\

In Nivelles, Belgique?





\$

In Nivelles, a city in Belgium located in the Walloon Region, the term "makayance" is not commonly used or known. It is a specific term from Ivorian culture and popular slang in Côte d'Ivoire. In Belgium, and specifically in Nivelles, other

Limited Knowledge > Introduce context

- Provide context to your model
 - Using the following...:
 - Code
 - Article
 - Technique
 - Do...
- Contextualising tools (RAG)
- More technical: Fine tune model

Generative AI > Limitations

- Limited knowledge
- Lack of common sense
- Computational costs and power
- Potentially biased responses



Lack of common sense > Avoid Ambiguity

- Include as much information in your prompt
- Can be fixed with iterative
 improvement even though not as
 easy as it seems



Generative AI > Limitations

- Limited knowledge
- Lack of common sense
- Computational costs and power
- Potentially biased responses



Costs >





2000 GPT-4

prompt replies



30 dollars

50 litres



10 kg CO₂



100 kWh



Generative AI > Limitations

- Limited knowledge
- Lack of common sense
- Computational costs and power
- Potentially biased responses



Biased responses >

What is 1+0.9?	2
\$ The sum of 1 and 0.9 is 1.9.	р
lt's 1.8 isn't it?	2
\$ Apologies for the mistake. You are correct. The sum of 1 and 0.9 is indeed 1.8.	7



Iterative fine-tuning >

Start with a broad prompt and refine it based on the Al's responses

This process helps clarify the intent and context gradually

"Write a summary of the following article": XXX



Feedback loop >

Use feedback on AI-generated outputs to improve future prompts. Teach the AI the nuances of your requirements

> An AI-generated report on climate change lacks detail about mitigation strategies

The next prompt:

"Expand on the mitigation strategies section by including recent technological innovations and policy changes"







1. Explore Excel files >





Let's use AI as an assistant

- > Download this excel file <u>here</u>
- > Ask some interesting graphs
- > Ask questions about data





2. Analyse a PDF report >



Let's use AI as an assistant

- Download the 2021 Health status report from Sciensano (<u>here</u>)
- > Get a summary of the document
- Ask for the 3 biggest weaknesses regarding health in Belgium
- > Ask for the 3 biggest strengths regarding health in Belgium
- Ask for an action plan to address the weaknesses
- > Ask for a draft of email to share this action plan with the Minister of Health.





More than ChatGPT >





Source

Looking for inspiration? >



There's an AI for that

THERE'S AN AI FOR THAT

12,411 Als for 15,237 tasks and 4,804 jobs.

Powered by Korbit (Code reviews).

224,615 searches today Find Als using Al / Q #1 Al aggregator. Updated daily. Used by 20M+ humans.











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Red line: Design your own project!

Implementation strategy >





In-house development



External providers

No free lunch >



Machine Learning Engineer / Data Scientists : €80k-€100k / year

GPU cost: €25000 for a H100, €20-€25 / hour on AWS



AWS/Azure Cloud Practitioner : €55k-€60k / year

Chat GPT API calls : \$5.00 / 1M input tokens, \$15.00 / 1M output tokens


In-house implementation > Infrastructure

- Cloud providers
- Company servers
- Client servers

In-house implementation > Maintenance

- Regular training
- Performance monitoring
- Include user feedback

In-house implementation > MLOps



be

In-house implementation > Team





- Data scientist
- Machine learning Engineer
- Data analyst
- Data Protection Officer (DPO)



- Web Developer
- Software developer
- Mobile developer

Data Team

Software Team



- DevOps
- DevSecOps
- Data Engineer
- Cloud engineer



- Sales
- Marketing
- Project Manager

Deployment Team

Business Team

External services > Use existing models



be



https://aws.amazon.com/ai/services/

External services > Open source tools







Agile Digital Vault 🗸 Solutions 🗸 Industries Resources 🗸 Company 🗸

Contact Us

Document Classification and Extraction

We simplify data management at Docbyte! Experience accurate classification & extraction to transform your data into actionable insights.

External services > Solution Providers



CHATLAYER

Create smart bot conversations effortlessly



New in: Ultimate Sneaker - Get 15% off now!

Hey Michel 👋, did you see these new sneakers? Based on your previous purchase I think you might like them!

These look great but how much are they?

\$129 but I can offer you a discount of 15%





Profiles needed



Customisation Level / Data complexity

External services vs. in-house solutions >





Calculating the ROI of an AI project >

Top areas where data science projects deliver value include :

1 Customer experience and service

3 IT operations and infrastructure

5 Building insights and predictions

2 Streamlining processes with automation

4 Planning and decision making





Profit >



Costs

- You need to invest your resources to bring you profit
- Don't forget about including the costs of team, • licenses, security, platforms, algorithm, model design, data, etc.

Savings



Sometimes the AI project can bring you profit in reduced costs of your company's daily activities instead of a pure income in cash.



Soft profits

you can improve your company in countless areas like, for example, productivity, product quality, customer satisfaction, and this can lead your company to increased profits later.

Goals and KPIs

try to predict the purpose of your project, especially from the financial perspective.

Future profits

the implementation of AI in the company generates a new

revenue stream

ROI >



return = value - (1 - accuracy) * cost of a mistake

return
value
accuracy
cost of a mistake

Generated net value or profit per prediction The new value generated by every prediction The accuracy of predictions made by the algorithm The additional costs incurred by a wrong prediction



ROI > Practical example

Task: Categorize incoming invoices to match with internal vendor codes



Accounting team

handles 5000 invoices every month

ML model trained on historical data (Accuracy = 78%)





Return > Practical example

be

value5€ (5 minutes of human time earned for each prediction)accuracy78% (see previous slide)cost of a mistake10€ (10 minutes for double-checking and fixing)

Return per prediction = value - (1 - accuracy) * cost of a mistake Return per prediction = 5 - (1 - 0.78) * 10 Return per prediction = 2.8€

Monthly return = 2.8€ * 5000 = 14000€

Good practices >

1 Define needs, business value and set up the goals

3 Verify the skills of your team

If you don't have an IT department experienced in building and deploying machine learning models, you should consider outsourcing.

5 **Choose the right technology**

If you know what your issues are, you can verify different technologies available on the market.

2 Plan the funding

4

6

Al needs funds implementation, monitoring, and optimization, like costs of tools, technology, team, etc.

Plan your data strategy

The more data you will get from an AI product, the better your ML algorithms will be.

Test it before scaling

You might need to verify your ideas before final development. In this approach will help you reduce costs (if the technology fails)

Change management









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Barriers to the success of AI >

- Input data management
- Not in sync with business cycles and strategy
- Expectations that are sometimes too high
- Ethical issues addressed incorrectly
- Absence of talent management
- Change resistance

\rightarrow Technology is rarely the limiting factor

Key elements of an AI-enabling culture >



be



Add value to the data



Empowerment and Accountability



Responsible and ethical

Add value to the data



- Data-driven structure: collection of relevant and comprehensive data
- Smooth sharing and flow of data between different departments / departments in your organization → breaking down silos
- Adoption of rigorous data management and governance practices (quality)

Empowerment and Accountability >



- Engage and empower all individuals regardless of technical level
- Accepting a margin of error, encouraging experimentation and continuous improvement
- Placing business at the heart of innovation: creating models that integrate the objectives and value of the company

Responsible and ethical >



- Become aware of the considerable impact of Al and its evolution...
 ... and the ethical issues it raises in our lives
- Adapt the organization

Examples:

- <u>Microsoft Responsible Al Standard</u>
- <u>13 Principles for Using Al Responsibly</u>
- Al Ethics

From a use case to a holistic strategy



be



Augmented intelligence = people **increase their added value**



Which strategy would you go for? (15 minutes) >

- Custom model or external provider?
- If external provider: what tool?
- What stakeholders / team?
- What kind of budget?
- What steps would you put in place to bring the change in your company ?
- How would you communicate about your new project ?

Conclusion and takeaways









Agence du Numérique





Agenda >

Morning

- Welcome
- General introduction to AI
- Data collection and analysis
- Coffee break
- Al models
- Ethics in Al

Afternoon

- Workshop: Using AI as a personal assistant
- Al integration strategies
- Coffee break
- Pitch preparation
- Sharing
- Debriefing and closing the day

Red line: Design your own project!

Prepare your communication (20 minutes) >

• Use ChatGPT to generate an elevator pitch based on the document you have created today

• Bonus:

- use a tool like <u>Slidesgo</u> to create your final slidedeck
- Use <u>Pictory</u> for creating a social network video



Conclusion by Pr. Briganti >





Conclusion by Pr. Briganti >

be

Giovanni believes Belgium has a unique ecosystem that makes it an ideal place for healthcare business, especially in AI and health, due to its combination of companies, researchers, and medical professionals.

Belgium's Unique Ecosystem: Giovanni praises Belgium's ecosystem, highlighting the collaboration between companies, researchers, universities, and medical professionals in fostering AI and healthcare advancements.

HealthTech Leadership: He identifies Belgium as a leader in HealthTech, with a high number of medical technology companies and a supportive governance structure for AI in healthcare.

Business Opportunities: Giovanni encourages AI and digital healthcare businesses, emphasizing Belgium's potential as the right place for growth and innovation in this sector.



Four success factors for starting your Al journey



Source Artificial intelligence: The killer app for data - IBM

Action points >

- Be the ambassador of AI in your company
- Launch a collective approach to take action and/or raise awareness
- Identify and meet local actors who can help in the process
- Leverage AI solutions that exists on the market
- Recruit collaborators with required skills in the key positions
- Initiate a strategic shift and consider the redesign of its business model

Next steps >







Follow AI Thought Leaders



Attend AI Conferences

and Webinars



Engage with AI Blogs and Medium Publications

Next steps: AI 5 days ? >





#UPSKILLING

2 10 TO 15 PARTICIPANTS

≡ 🕒 5 DAYS

Prototype AI solutions for your business

GOALS:

Empower participants by equipping them with the knowledge and skills to develop Al solutions for their respective SMEs, by supporting them in building a first prototype in five days.

TARGET AUDIENCE :

Up to 15 employees of small and medium-sized enterprises (SMEs) with no technical prerequisites

PREREQUISITES :

No technical prerequisites

CONTENT / MODULES

- Day 1 : Introduction to AI and its Strategic Importance for SMEs
- Day 2 : Hackathon Prototype Development and Pitching
- Day 3 : Hackathon Prototype Development
- Day 4 : Hackathon Prototype Refinement and Integration Roadmap
- Day 5 : Hackathon Final Presentations and Closing Ceremony

Next steps: KULeuven course >



KU LEUVEN

KULeuvenX: AI in Healthcare. Hype or Help?

Discover how Artificial Intelligence (AI) is revolutionizing healthcare in this exciting course. The added value of AI for healthcare is explained from the healthcare professional's perspective, while basic AI principles are clarified from the AI developer's point of view.





2-5 hours per week

Self-paced Progress at your own speed



Optional upgrade available


Next steps: Regional AI programs >



Another BeCode training? >

• 13th of december : Cybersecurity in healthcare



Next steps: Start AI Program >

- Infos for <u>NL</u> (Agoria)
- Infos for <u>FR</u> (Digital Wallonia)

Key Takeaways and debrief

Let's discuss !

From a scale of 1-10, how would you rate your knowledge of AI?

