



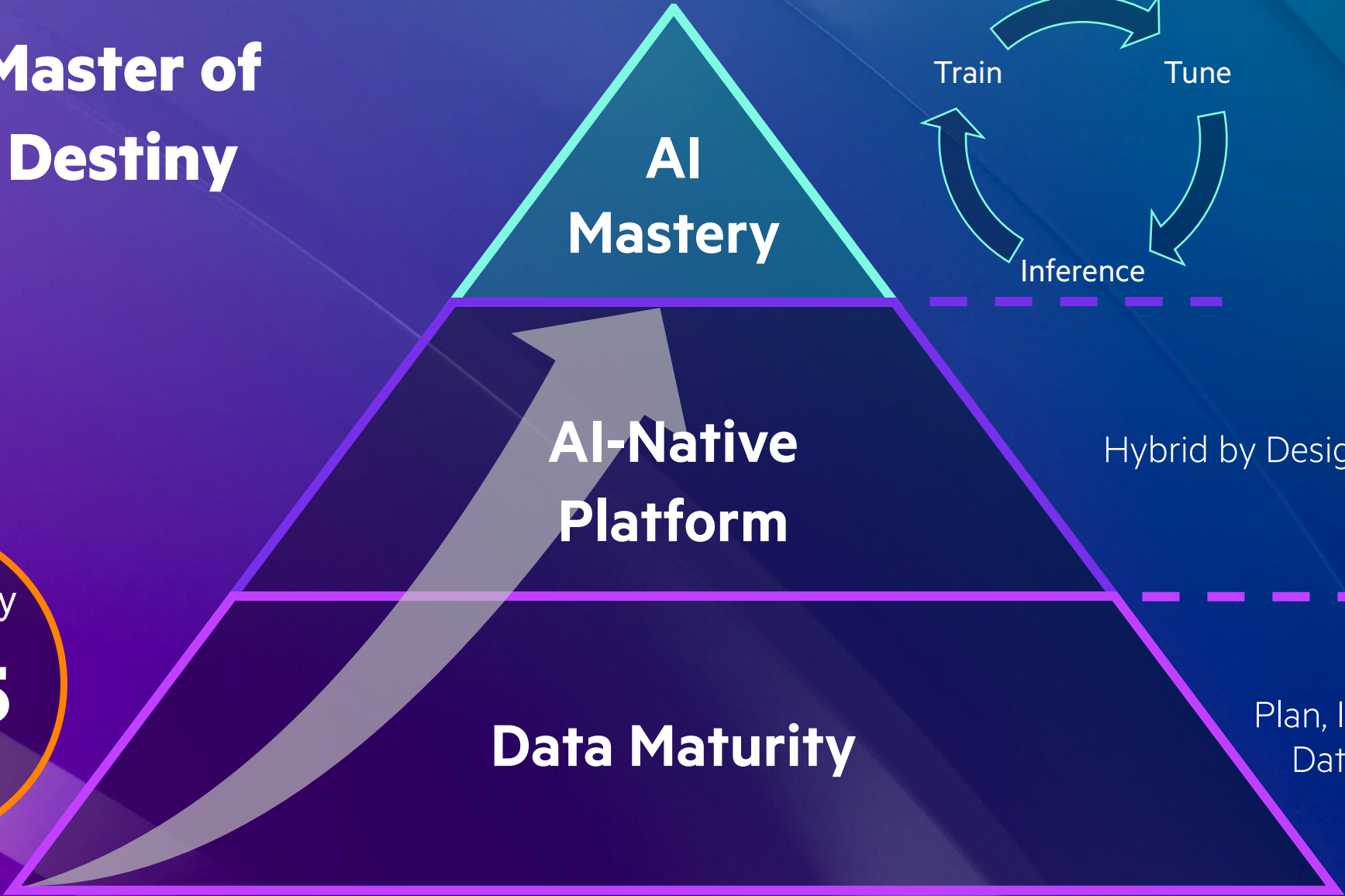
Hewlett Packard
Enterprise

GenAI for the Enterprise: Trustworthy & Private

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Solution Architect | AI Ambassador
HPE Data Practice Germany

April 10th, 2024 | Berlin

Be the Master of your AI Destiny



Data Maturity
2.6/5
Click here for your [self-assessment survey](#)



Elements of AI Mastery powered by HPE

Business Use Case

Machine Learning

Computer Vision

Generative AI

AI Lifecycle

Data

Training

Tuning

Inference

AI-Native Architecture

Data
Centricity &
Autonomy

Trustworthy
AI Lifecycle
Management

Hybrid
by Design

Supercomputing
DNA

Open
Ecosystem

HPE GreenLake



Why HPE

We help you to become the
Master of your AI Destiny

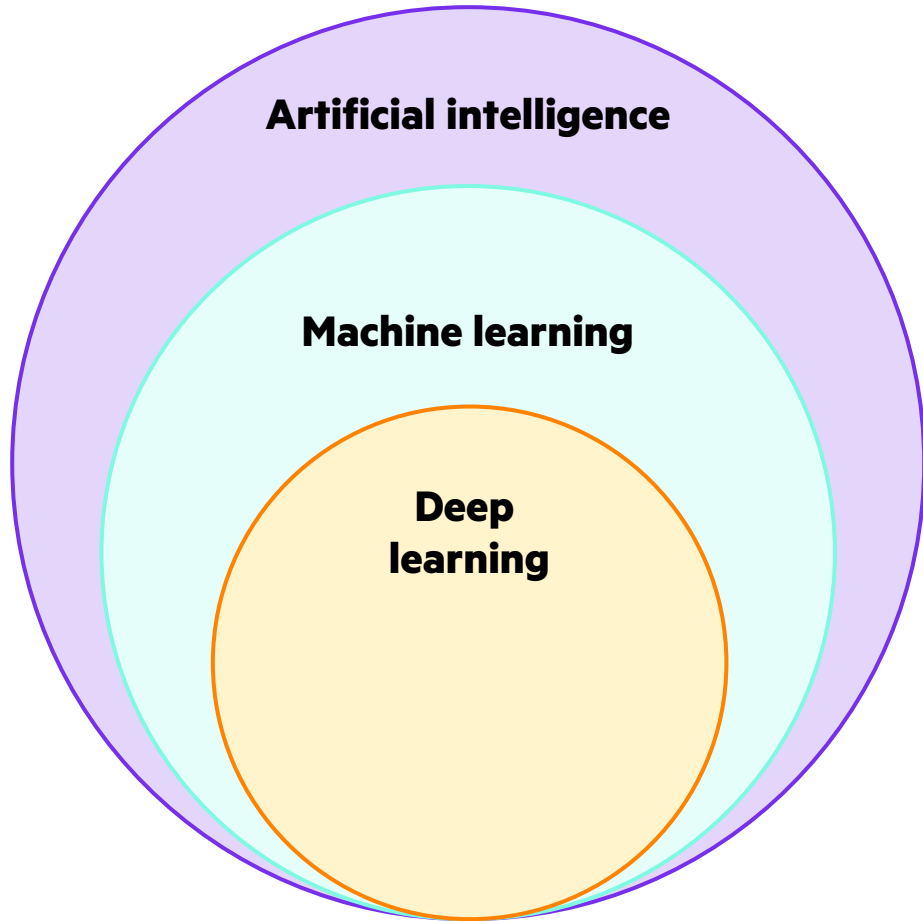
HPE's hybrid AI-native architecture fosters **rapid, private and trustworthy implementations** of the data first, autonomous and complete AI lifecycle from plan to operations.



What is Generative AI?



What is Generative AI?



Artificial Intelligence

Mimics human behavior. Any technique that enables machines to solve a task in a way like humans do.

Machine Learning

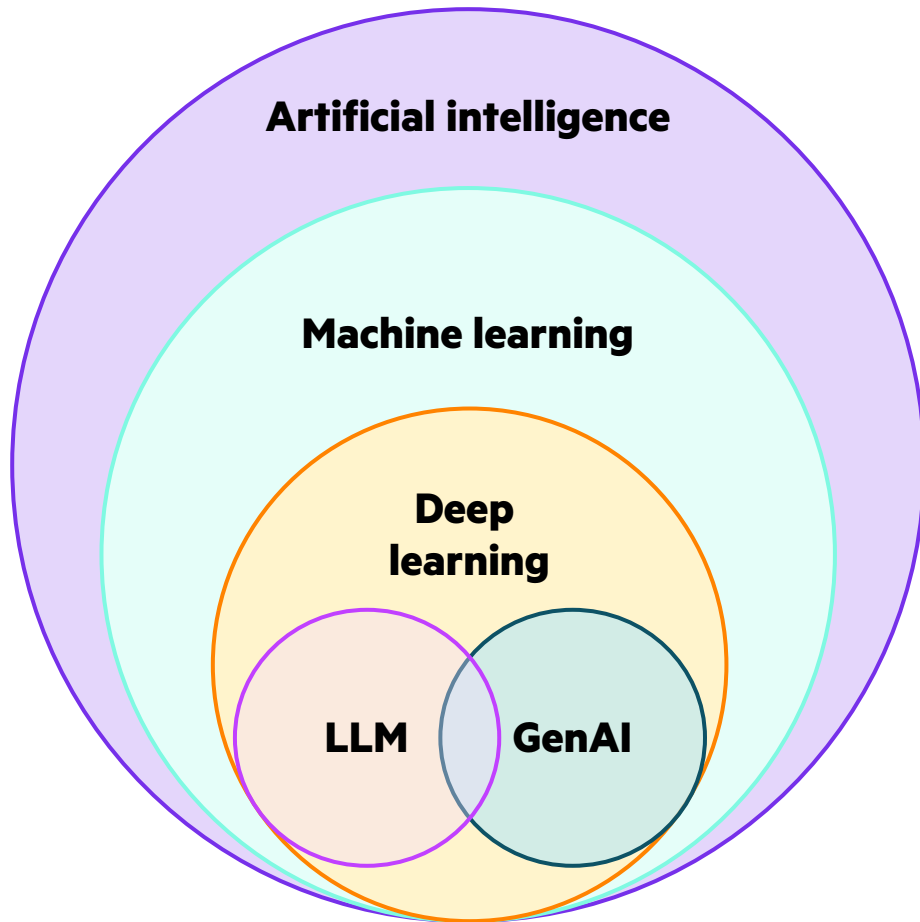
Algorithms that allow computers to learn from examples without being explicitly programmed.

Deep Learning

Using deep artificial neural networks as models, inspired by the structure and function of the human brain.

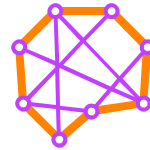


What is Generative AI?



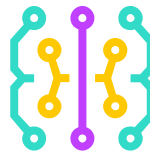
Generative AI seeks human-level comprehension and facility with language and images.

The latest ready-to-use models can:



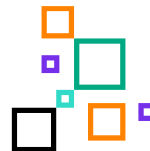
Understand and generate

Text, Speech, Code, Images



Interpret

Images, Text



And even more...



Create new and original content like images, videos, text, code, and audio

How generative AI works

Inputting a prompt

The user provides a description or sample of the desired content, like words, sentences, images

Forming a model

A huge, trained neural network based on text, images, audio, code files

Generating content

Applying the prompt to the model generates new content that has the same context to the one used for the model training

Context window

An apple a day ...

LLM

Completion

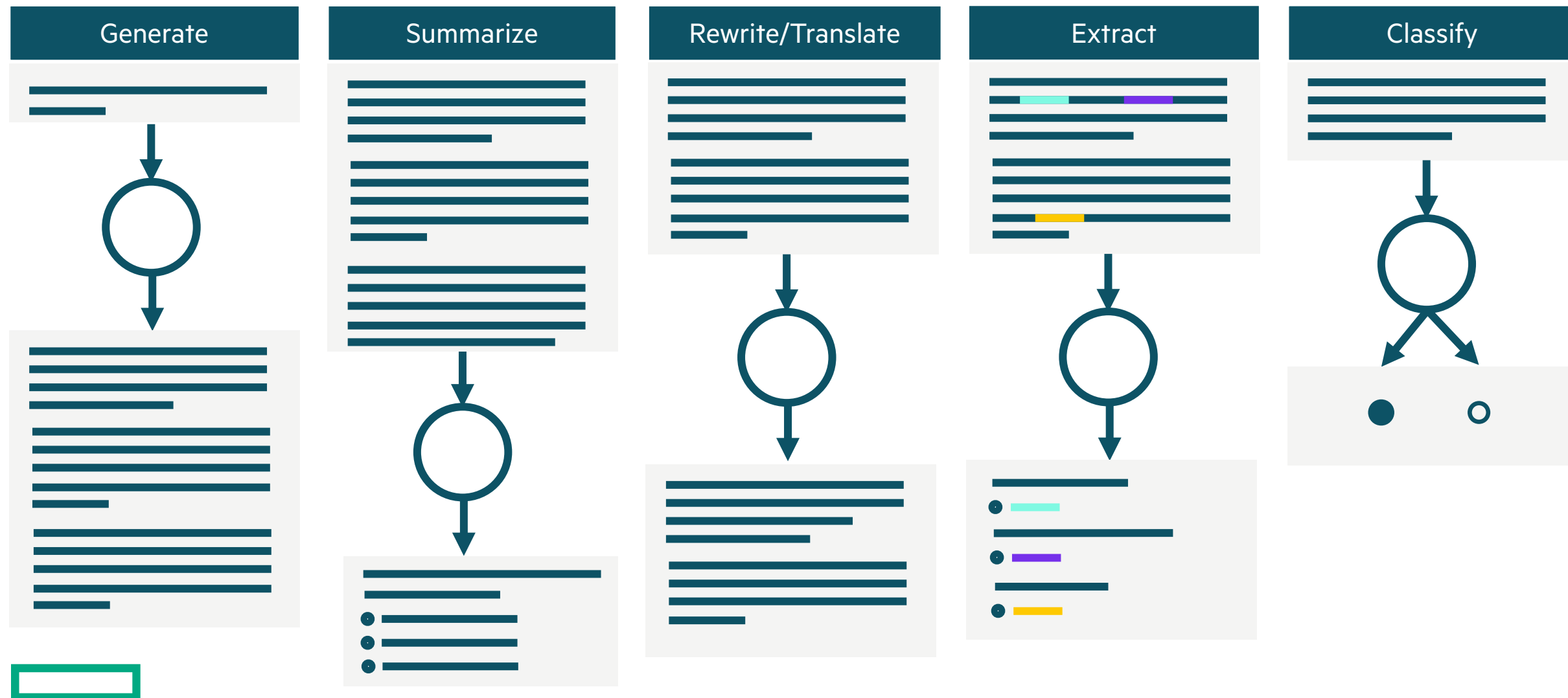
... keeps the doctor away, but what about a banana a day? A new study suggests that eating bananas may help prevent the onset of type 2 diabetes.

Web Crawls
Books
Political and Legal Sources
Wikipedia
News
Other



LLM capabilities

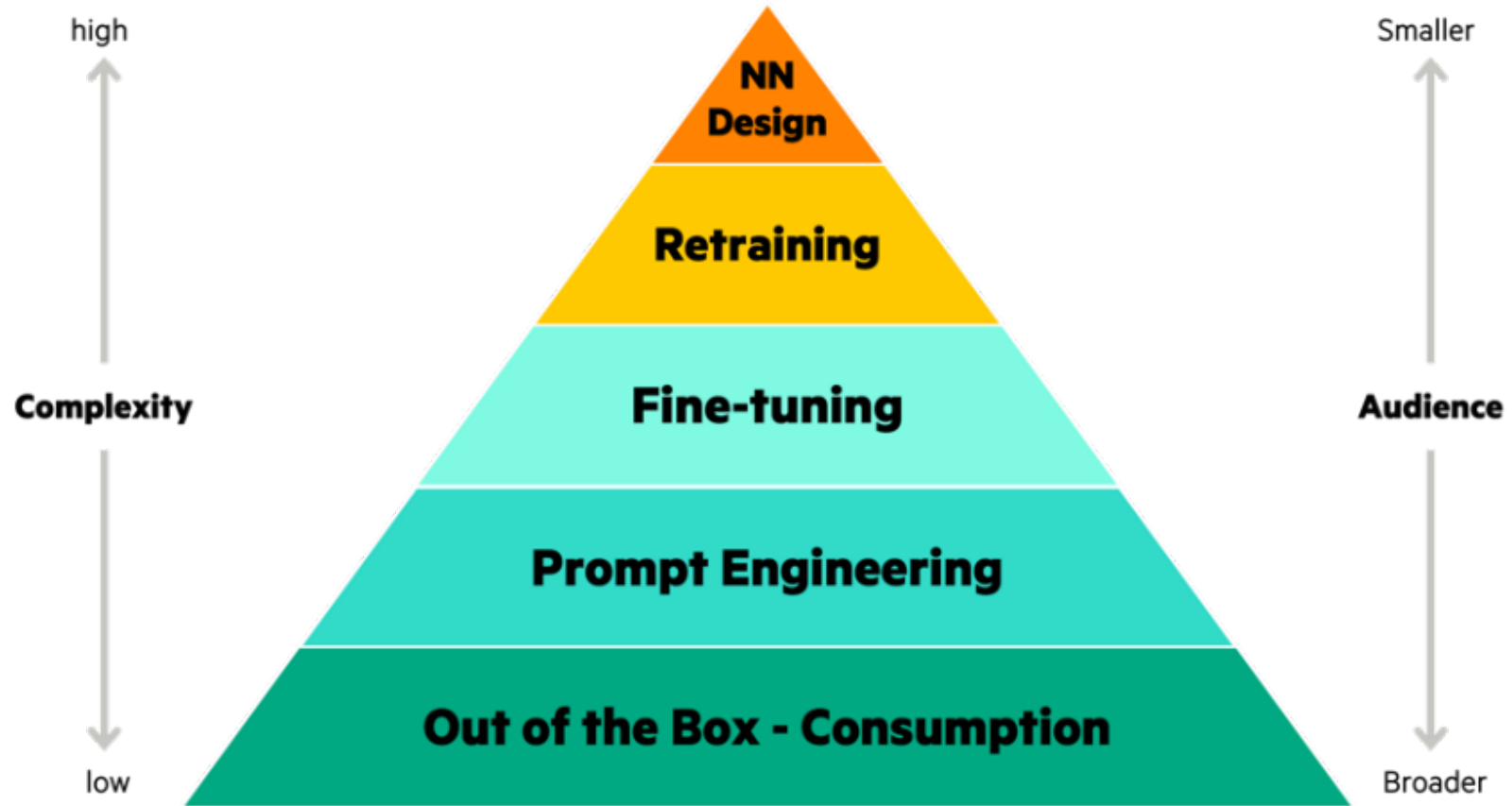
Available out-of-the-box within the context of the training material



Levels of innovation

Each level has different:

- Audience
- Tooling
- Vendors
- Cost Controls
- Security and Safety considerations
- Ethics considerations
- Engagement opportunities
- Measures of Success



Trustworthy AI



TRUSTWORTHY AI

Today, AI is a closed and opaque system.
The world needs **Trustworthy AI** for wider adoption and compliance

TODAY
Biased
Non-transparent
Insecure
Unreliable



Privacy-preserving

Traceable

Fair

AI YOU CAN
TRUST

Explainable

Secure

Robust



HPE AI ethics principles

Important for all AI conversations, designs, and models



**Privacy Enabled
and Secure**



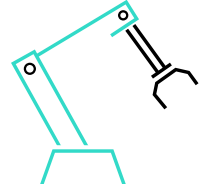
**Human
Focused**



Inclusive



Responsible



Robust

TRUSTWORTHY AI

Fundamental Pillars Addressing Key Technology Gaps in Today's Conventional AI

Transparency

Trust

Bias

Robustness



HPE invests in Trustworthy AI



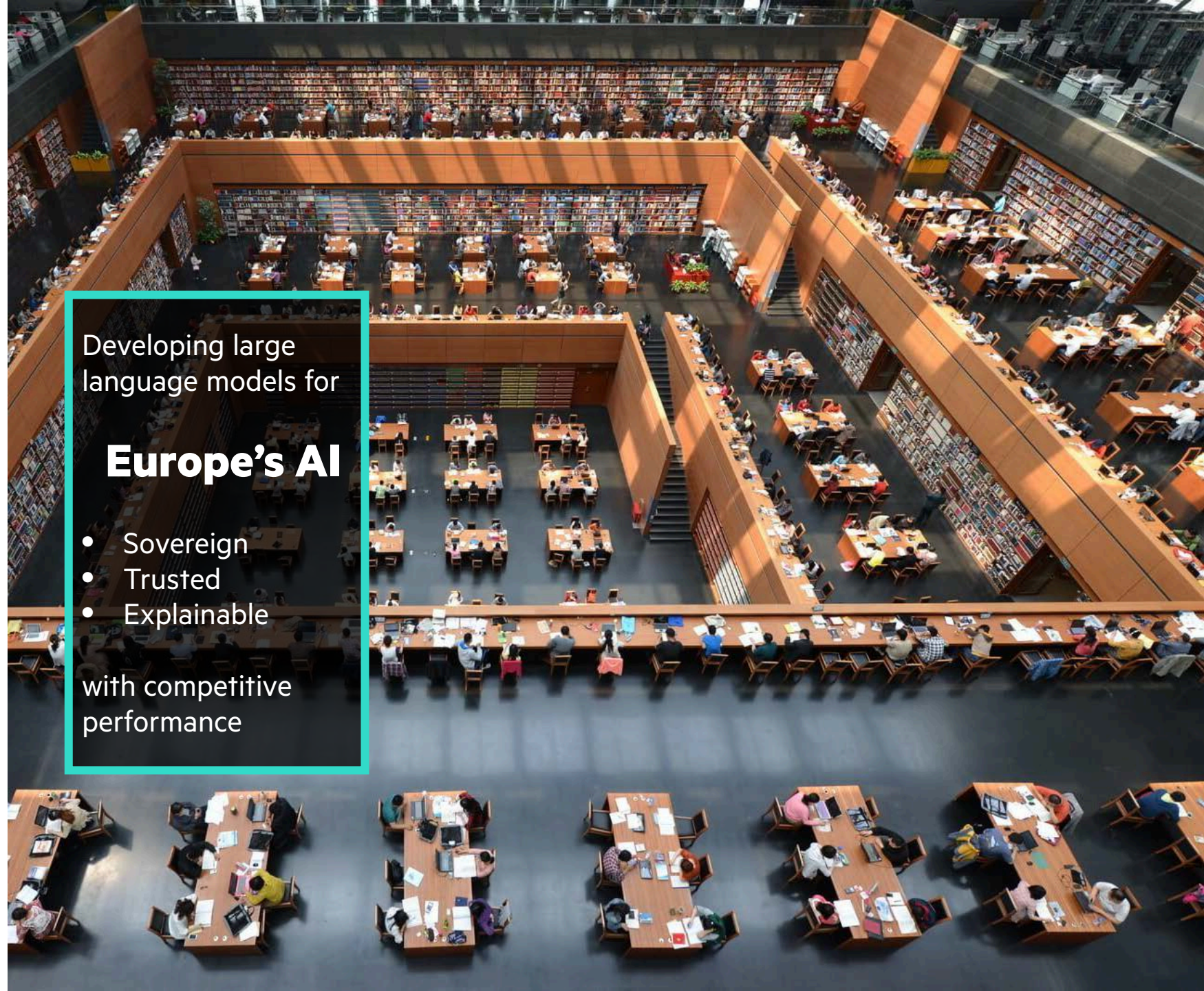
ALEPH ALPHA

Developing large language models for

Europe's AI

- Sovereign
- Trusted
- Explainable

with competitive performance





Solution:
Data

Industry:
IT services

Country:
Germany

Accelerating Europe's multilingual AI revolution

“Aleph Alpha’s mission is to enable the accessibility, usability, and integration of large, European multi-language and multimodal AI models. This will secure the digital sovereignty for public and private sector partners in Europe and beyond.”

– **Jonas Andrulis**, CEO and Founder of Aleph Alpha



ALEPH ALPHA

Artificial intelligence (AI) promises to transform the way we live, work, and play. But whose AI? With the U.S. and China leading the way, Europe recognizes it must create its own AI models to reflect the continent’s language diversity. Aleph Alpha is leading Europe’s response. The German start-up is developing Natural Language Processing models across English, French, German, Italian, and Spanish.

Explore digital game changers

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All performance and cost savings claims are provided by Aleph Alpha and have not been independently verified by AMD. Performance and cost benefits are impacted by a variety of variables. Results herein are specific to Aleph Alpha and may not be typical.

Use Cases & Demos



How to get started

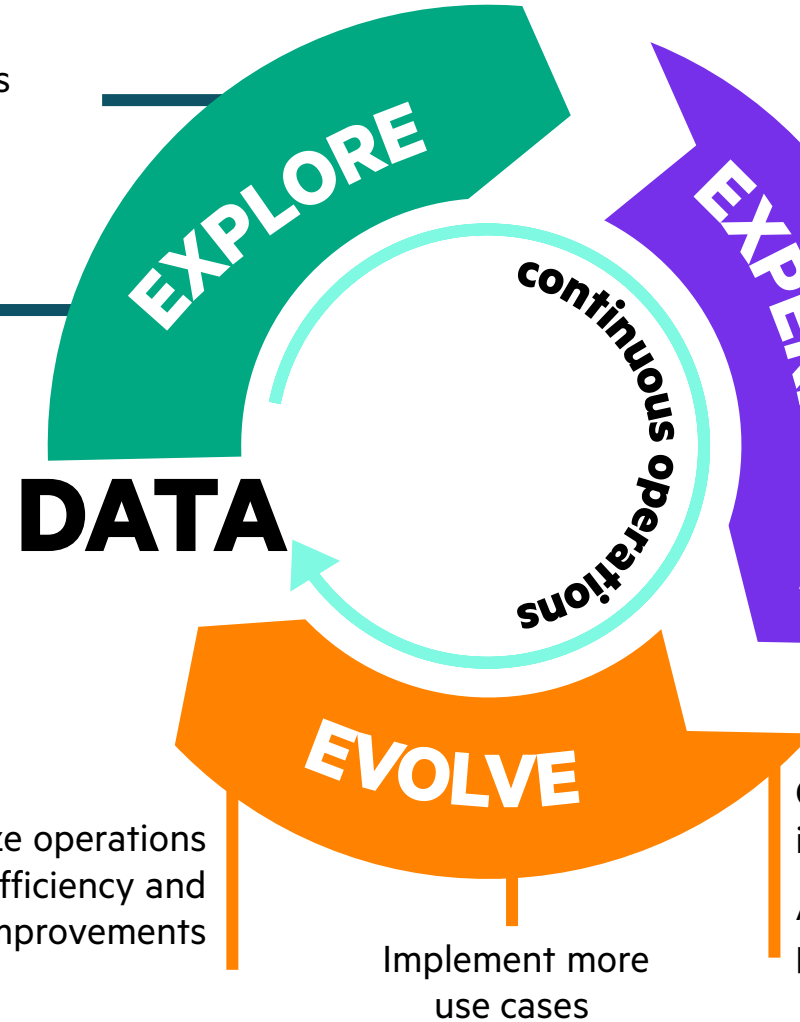


HPE AI Advisory & Development Roadmap

From business needs to solution in production

Understand AI, data, analytics outcomes and challenges

Align teams on common vision and plan



Gather and validate your use cases and data

Choose an existing model or pretrain your own

Conduct a Proof-of-Value for selected Use-Cases

Optimize operations ensuring efficiency and continuous improvements

Implement more use cases

Optimize and deploy model for inference

Augment model and build LLM-powered application

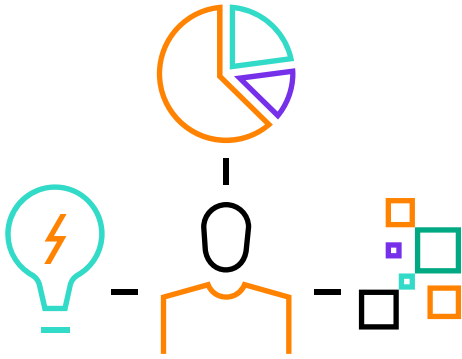


HPE AI Service Models

Tailored experience to overcome AI barriers

WE BUILD

HPE develops and deploys the AI solution end-to-end



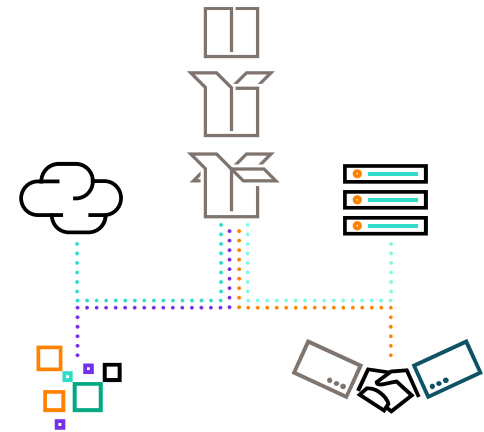
WE OPTIMIZE

Bring your own AI model



WE INTEGRATE

Solution built with our Partners



Advise & Align

Assess & Analyze

Plan & Design

Build & Implement


Enhance & Optimize

Operate & Manage



Start now! With HPE Generative AI Services

Generative AI **Discovery** Service



Why Generative AI? Why now?

Generative AI and the adoption of LLM represent one of the big AI advancement waves. The ability to let machine systems generate controlled outputs that are natively human-readable tremendously simplifies their use, accelerating market acceptance and experimentation enthusiasm. The key factors building the current success are:

- Novel model architectures such as transformers, leveraging the existing deep learning (DL) principles and available technology resources with innovative structures to address existing areas such as natural language processing
- Open-source project proliferation, defining new job roles working on optimized frameworks to improve and optimize capability, and on model specialization with advanced optimization techniques and scalable fine-tuning approaches
- Large consumer availability, making cutting-edge discoveries available to anyone, including profiles with high creativity and less technical background, accelerating the exploration of use cases


- 2-hour interactive discovery session
- Focus on typical use cases, techniques, and functionalities provided by Generative AI systems and LLM

HPE AI **Transformation** Workshop

When and how will you embrace AI to transform the business?

Data is essential for activating next-generation operating and business models for organizations. But there's a major difference between data, information, and actionable insights. So, it's no wonder that many organizations are beginning to lose sight of what to do with all this data and feel unsure if they're fully leveraging data for deeper insights, more personalized experiences, and process automation that can drive competitive advantage.

This data dilemma makes artificial intelligence (AI), machine learning (ML), and now the most extreme deep learning (DL) models the heart of organizational digital transformation. In fact, all the forms of AI, including Large Language Models (LLM) and Generative AI, are incrementally permeating our lives and ecosystem of IT and data teams. About 98% of organizations say they are using AI/ML in some capacity, yet only 26% are advanced in the AI/ML strategy while 57% are using AI/ML, but it has not transformed their organization.¹



- One-day visual and interactive workshop
- Cover artificial intelligence, machine learning, big data and analytics related topics

Generative AI **Implementation**

We are open to organizations' creativity, and should a completely new model architecture be required or the need to use specific training sets arises with Generative AI and LLM design and build, we revisit the model architecture and retrain on targeted and accordingly prepared data.



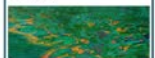

Text	Images	Proteins	More
<ul style="list-style-type: none">• Summarization• Search• Q&A 	<ul style="list-style-type: none">• Image to image• Text to image• Text description 	<ul style="list-style-type: none">• Patterns• Folding• Design 	<ul style="list-style-type: none">• Audio• Voice• Code 


Figure 1. Generative AI modalities

What to expect

Our AI experts bring data science, machine learning (ML), engineering, and ML Ops expertise to assess the business expectations, align to technology requirements and performance metrics, and prepare the required data in a secure and proper format to be consumed by the models (see Figure 2).

Data is the foundation of any AI project's success. Dedicated pipelines help ensure the smooth transition between source, platforms, and output destination while loaders are used to handle human-readable representations, which are translated into machine-readable formats keeping semantics and related context.

Technology provides the needed resources to prepare and run the deployed solution, optimized infrastructures, and cloud-native software platforms that help team collaboration and agile development lifecycle.



- Inference optimization
- Prompt engineering
- Fine tuning

Let's connect!

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