Generative AI for Creators

A not-so-technical Introduction

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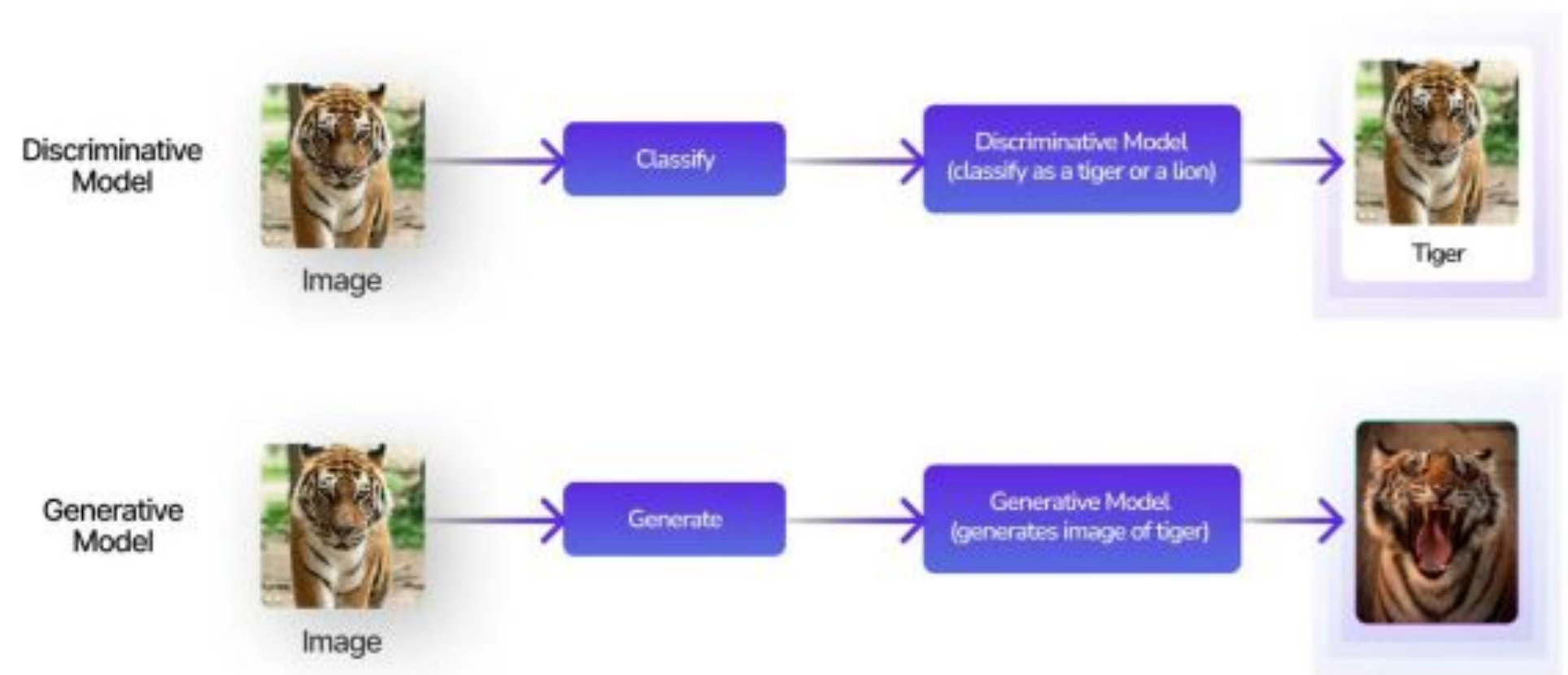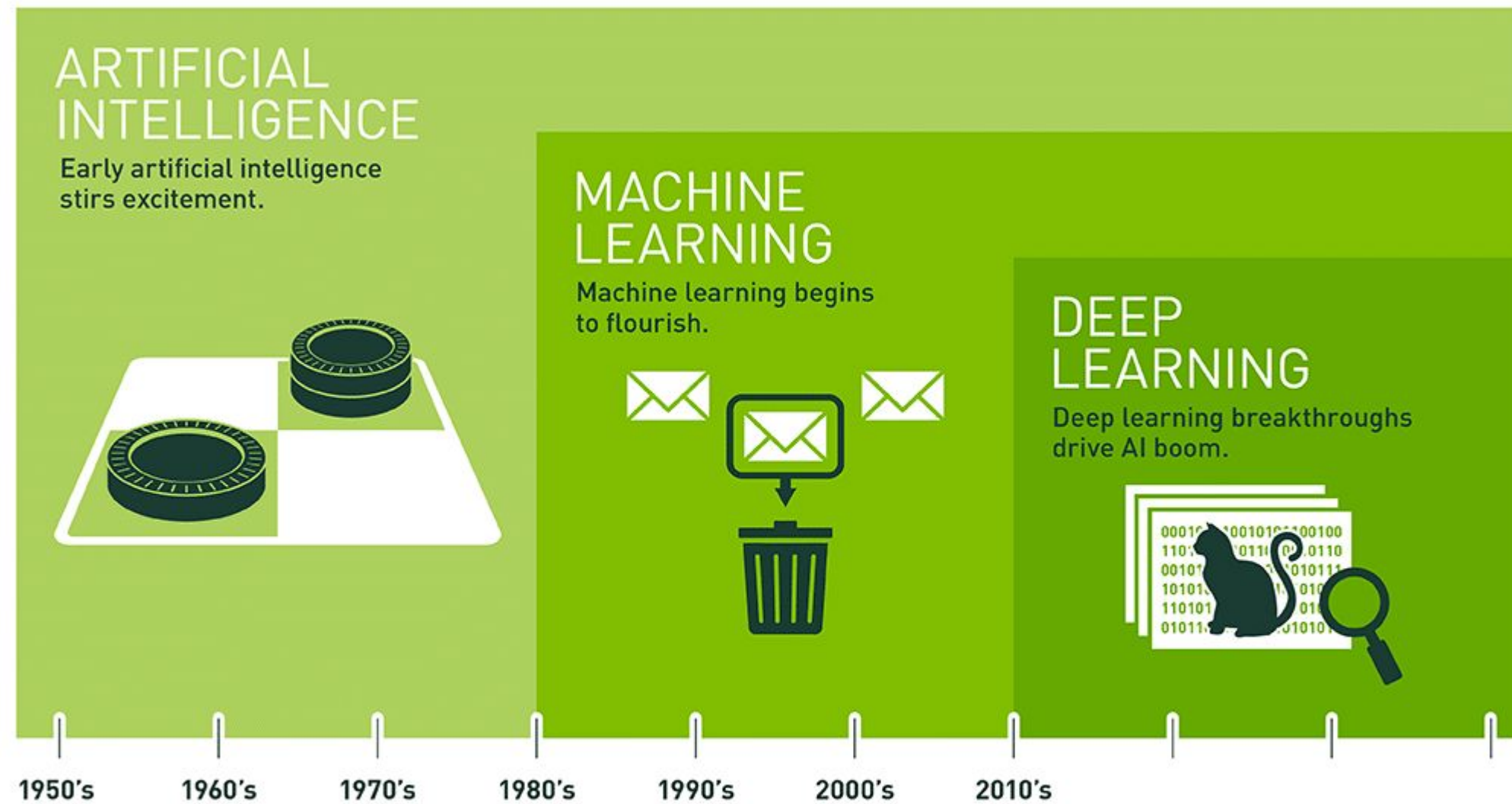
Section 1

Introduction to Generative AI

What is Generative AI?

- Generative AI: Branch of AI for creating content based on existing data.
- Examples:
  - Text Generation: ChatGPT, Bard - articles, stories, poetry.
  - Image Generation: Stable Diffusion - realistic images of people, animals.
  - Music Generation: MuseNet - original music in various genres.

https://markovate.com/blog/generative-ai-applications/

Relationship: AI-ML-DL

(Source: The Difference Between AI, Machine Learning, and Deep Learning? | NVIDIA Blog)

What is a Language Model?

- While typing SMS, have you seen it suggests next word?
- While typing email, have you seen next few words are suggested?
- How does it suggest? (suggestions are not random, right?)
- In the past, for "Lets go for a...", if you have typed 'coffee' 15 times, 'movie' say 4 times, then it learns that. Machine/Statistical Learning.
- Next time, when you type "Lets go for a...", what will be suggested? why?
- This is called Language Model. Predicting the next word. When done continuously, one after other, it spits sentence, called Generative Model.
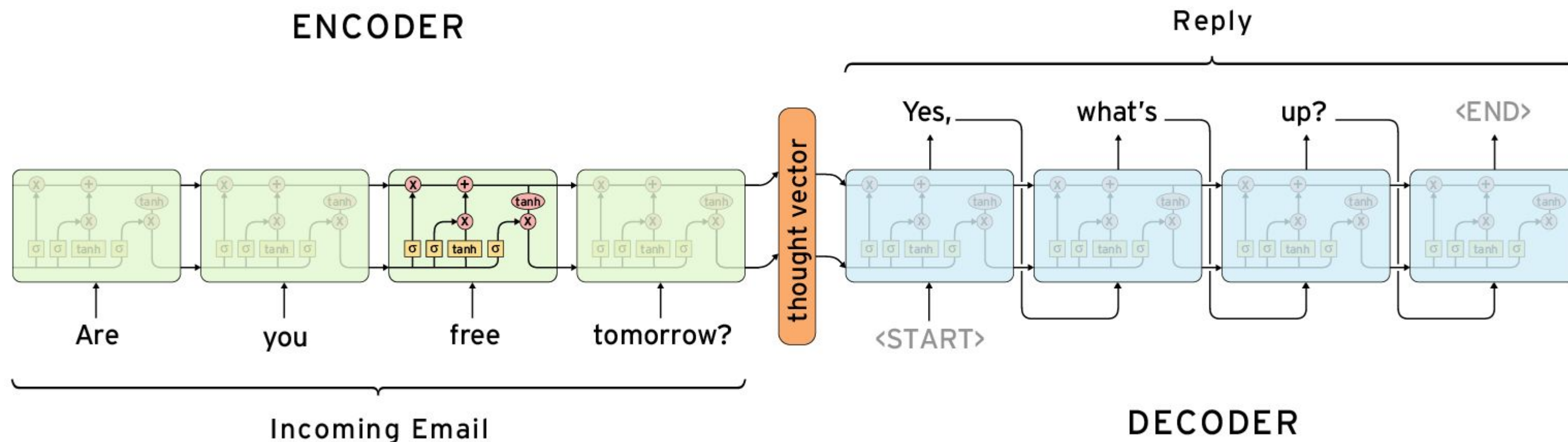
Example
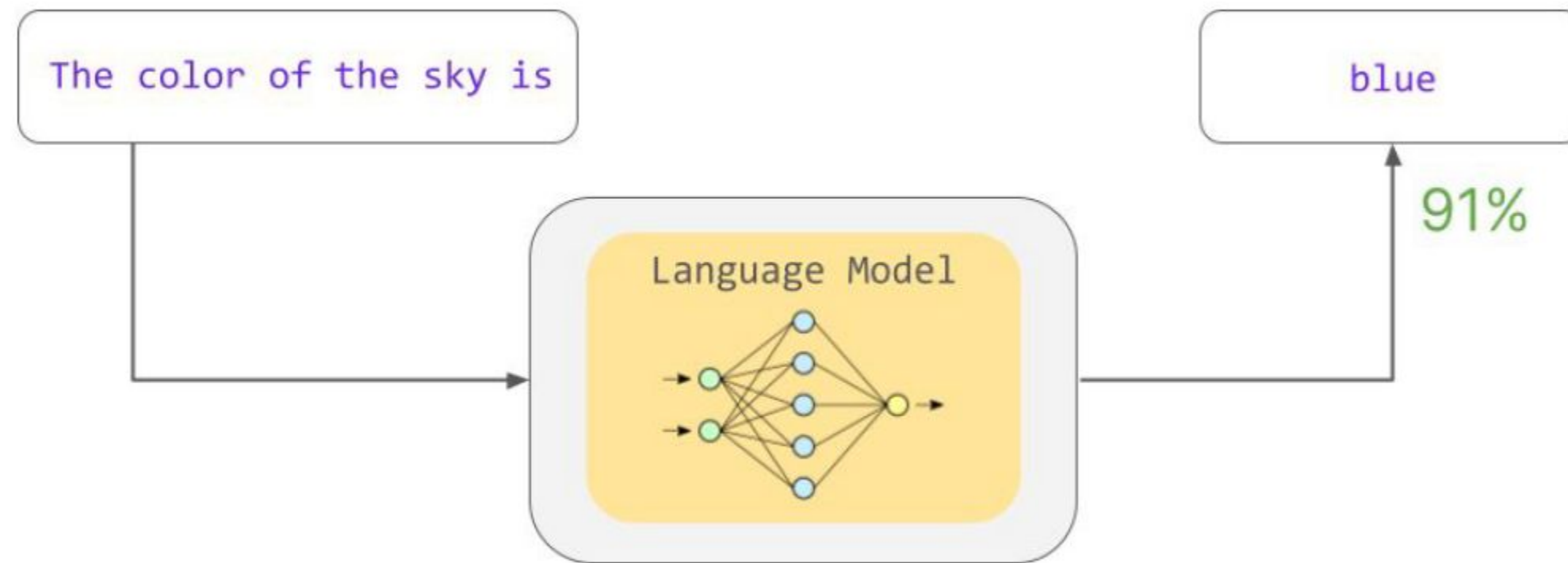
What is a Large Language Model (LLMs)?

- Large in terms of corpus used and parameters
- Like LMs, LLMs also predict the next word in a sentence.
- Based on Transformer. Encoder-Decoder with Attention
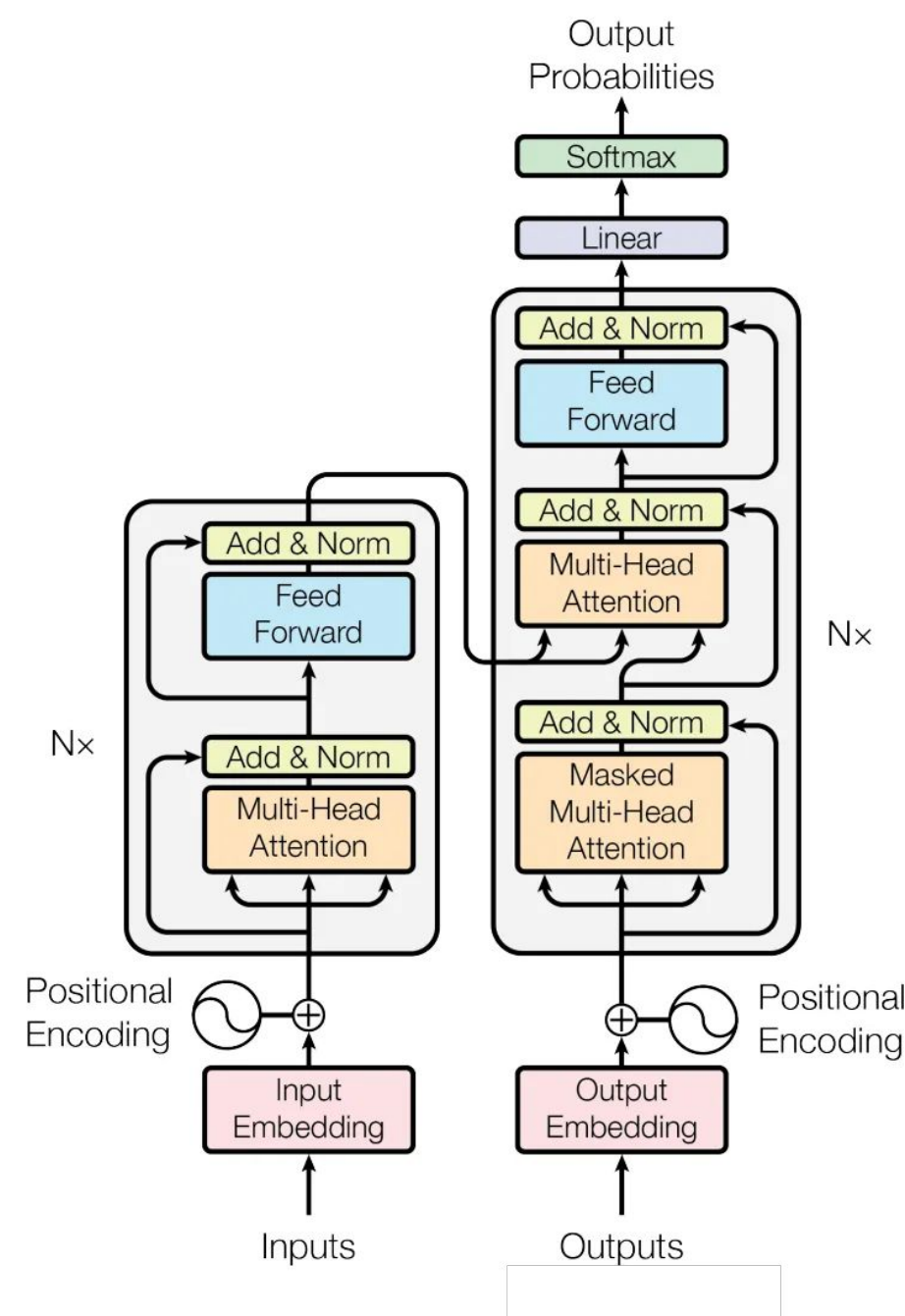- Encode part to generate embeddings, Decoder part to generate text
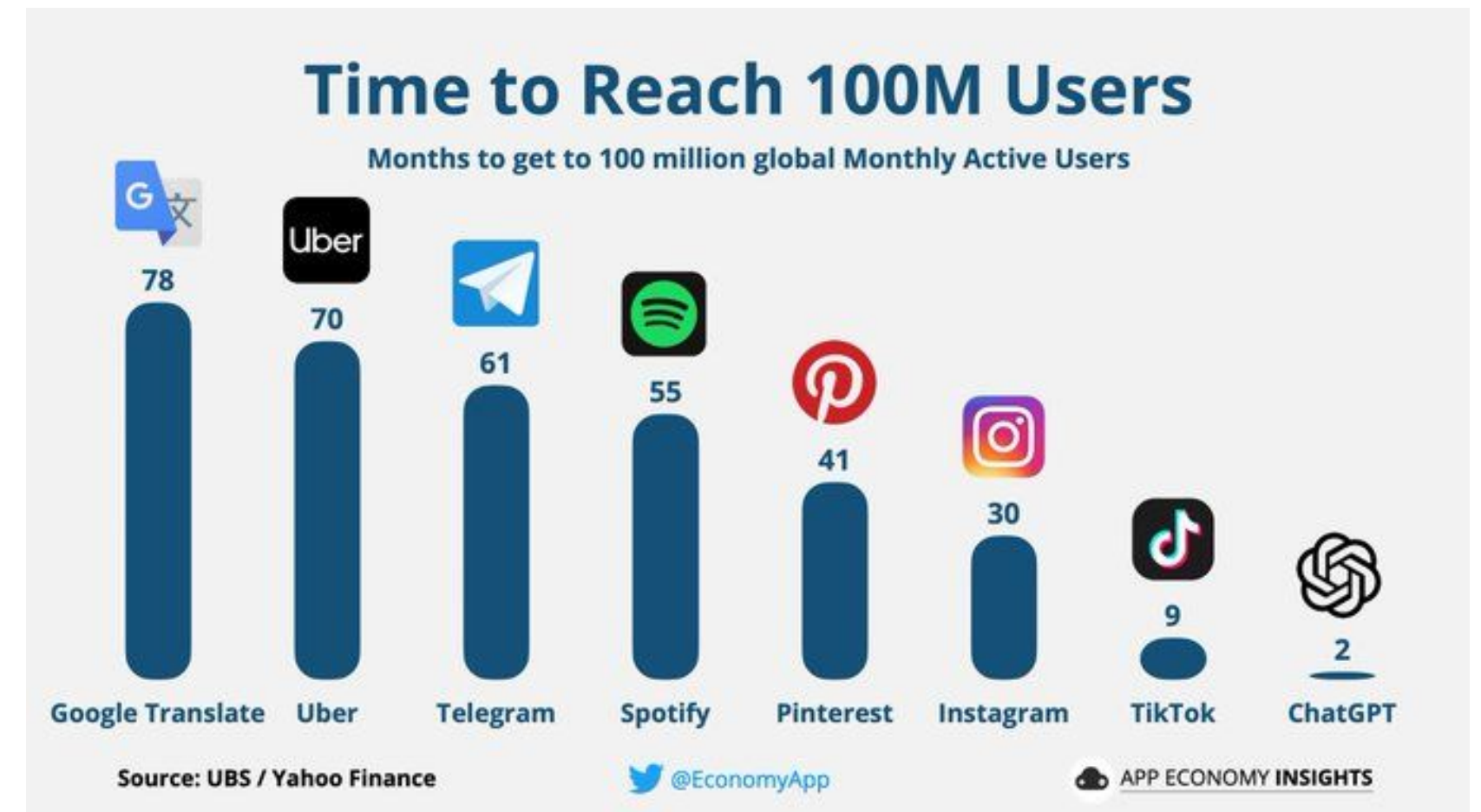
Transformer

BERT

Encoder

GPT

Decoder

Why should I know?

- ChatGPT – a watershed moment
- From brainstorming, customer service, marketing, wherever language is...
- LLMs are big black boxes
- Need to know properties,capabilities and limitations

Time to Reach 100M Users
Months to get to 100 million global Monthly Active Users

78 Google Translate
70 Uber
61 Telegram
55 Spotify
41 Pinterest
30 Instagram
9 TikTok
2 ChatGPT

Source: UBS / Yahoo Finance   @EconomyApp   APP ECONOMY INSIGHTS

New Programming Language: English

- Prompt: The prompt is your text input that you pass to the model.
- Prompt Design: The art and science of figuring out what text to feed your language model to get it to take on the behavior you want.
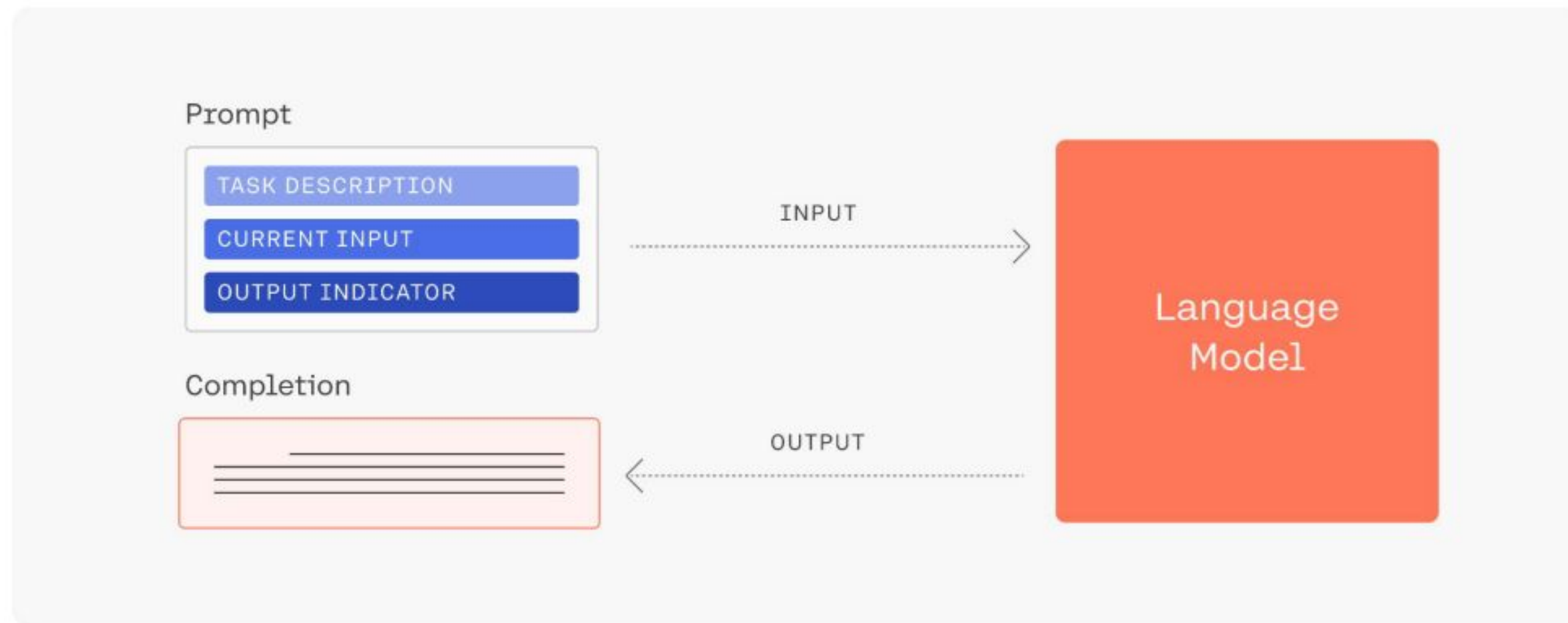
New Job, New Market

Prompt Marketplace

Search 100,000+ AI prompts from the world's best AI creators
Midjourney, ChatGPT, DALL·E, Stable Diffusion & more

Explore prompts   Sell prompts

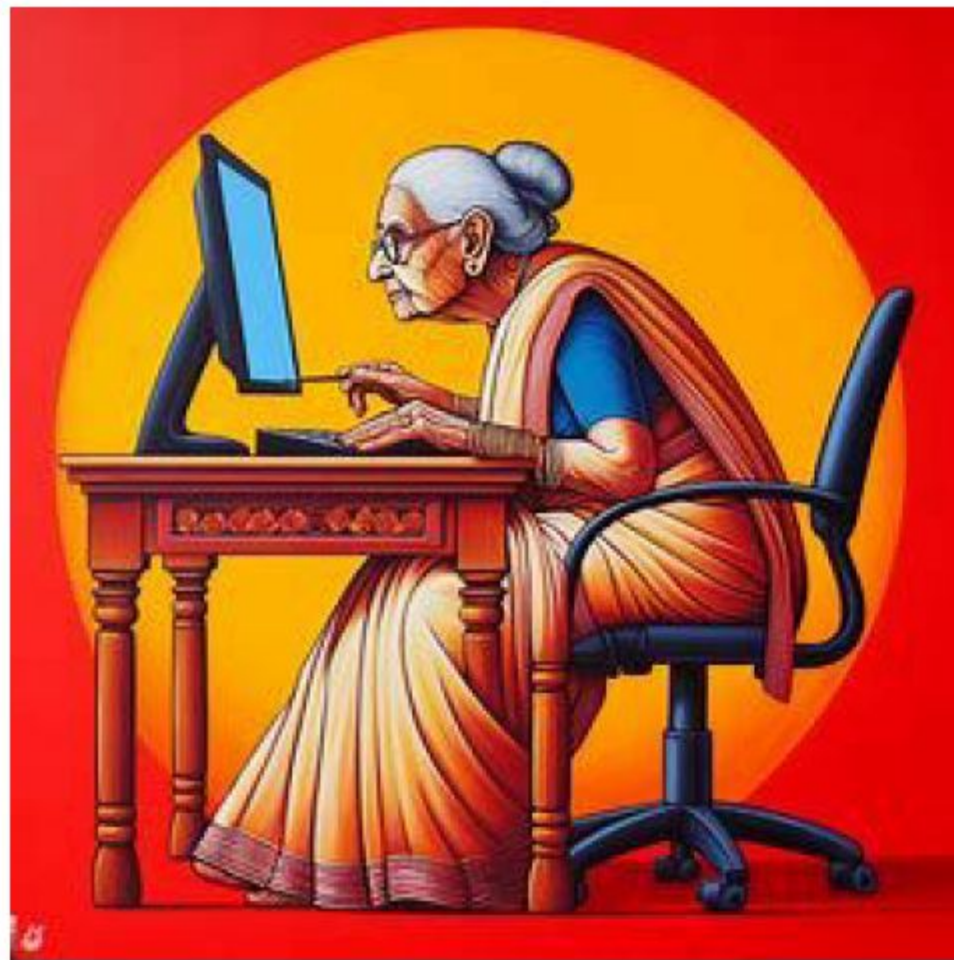Featured in   TechCrunch   THE VERGE   WIRED   FAST COMPANY   FINANCIAL TIMES   The Atlantic   yahoo/finance   WSJ
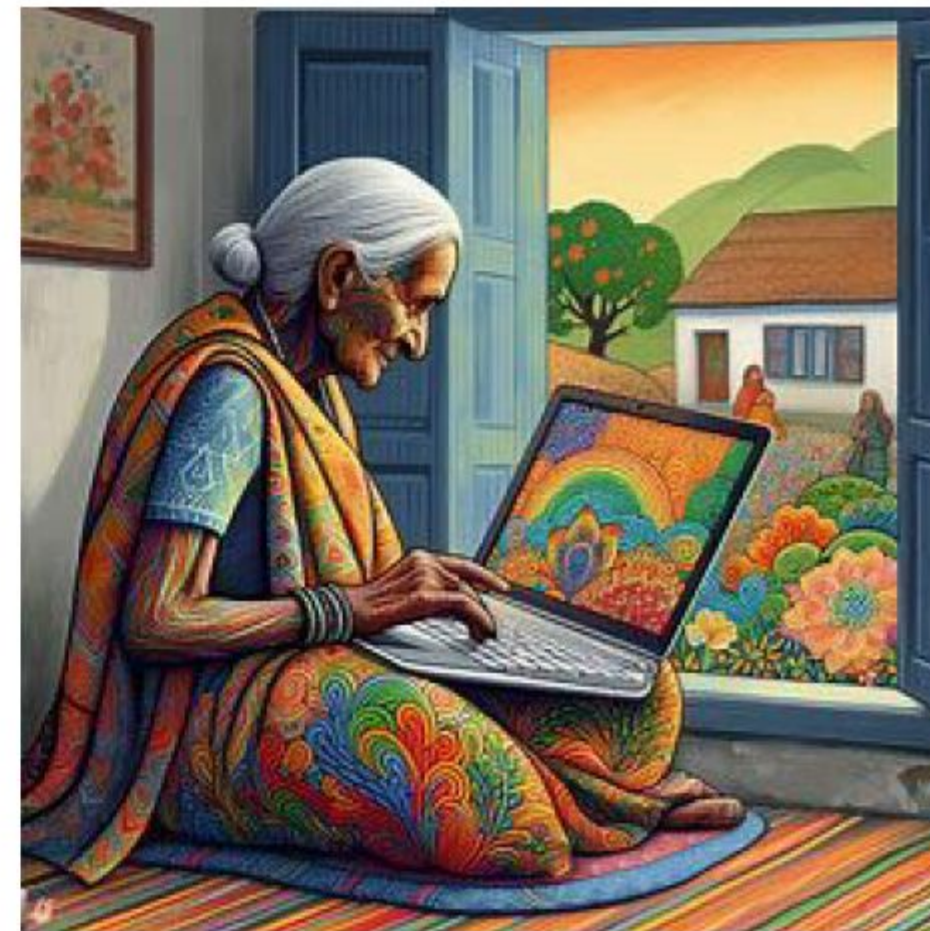
"Create paintings of an old woman using computer in the styles of < >"
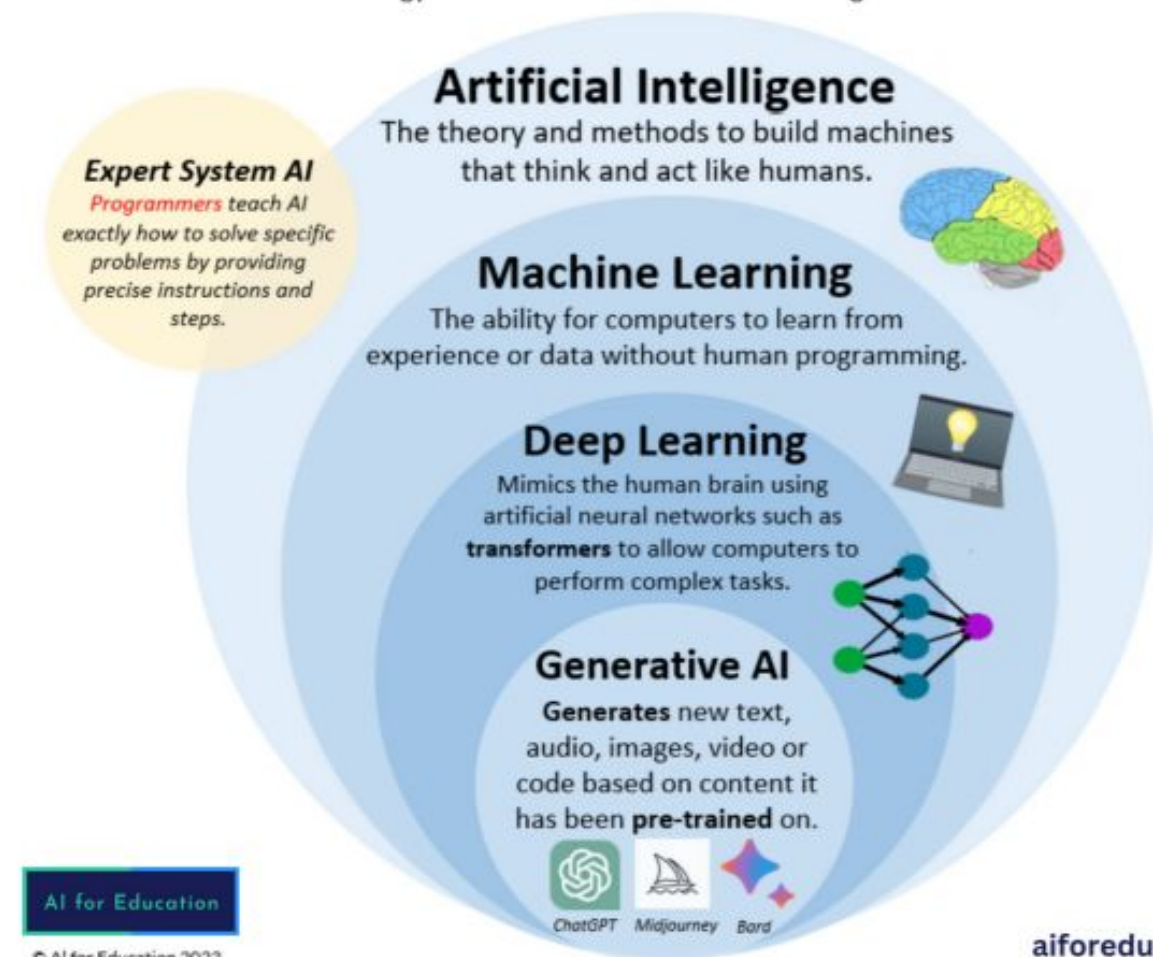to copilot.microsoft.com

Jamini Roy

Amrita Sher-Gil

So, What is Generative AI?

- Subset of AI using ML to generate new creative content
- Learning from data patterns
- Produces outputs like art, music, literature
- Provides tools for creative exploration
- Challenges notions of creativity
- Blurs human vs machine lines
- Reshapes creative industries
- Opens new possibilities

Defining Generative AI

To understand generative artificial intelligence (GenAI), we first need to understand how the technology builds from each of the AI subcategories listed below.

Expert System AI
Programmers teach AI exactly how to solve specific problems by providing precise instructions and steps.

Artificial Intelligence
The theory and methods to build machines that think and act like humans.

Machine Learning
The ability for computers to learn from experience or data without human programming.

Deep Learning
Mimics the human brain using artificial neural networks such as **transformers** to allow computers to perform complex tasks.

Generative AI
Generates new text, audio, images, video or code based on content it has been **pre-trained** on.

ChatGPT Midjourney Bard

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Section 2

Use cases for Creators

Redefining Artistic Expression

- Offers artists novel generative tools
- Sparks unconventional creative ideas
- Challenges authorship assumptions
- Blurs original vs AI-generated
- Human creativity vs machine creativity
- Raises questions on value of art
- Art marketplace disruptions likely

Music Composition and Innovation

- Offers Generates melodies, harmonies, rhythms
- Enables genre exploration
- Empowers composers
- Wave of innovative music expected
- Might expand musical vocabulary
- Traditional music roles affected
- Streaming impacts anticipated

AI Music Composition Tools

- Magenta, MuseNet, AIVA, WaveNet
- Tools for sound design, licensing, concerts
- AI accompaniment and improvisation
- Automated music journalism
- Retail merchandising innovations
- Accessibility improvements

Design and Architecture Evolution

- Paradigm shift in design workflows
- Automates repetitive design tasks
- Generates countless design options
- Enables rapid iteration
- Optimizes efficiency and aesthetics
- Empowers designer creativity

AI in Architecture

- Generative design tools
- BIM integration with AI capabilities
- Parametric modelling exploration
- Analysis for materials, structures
- Sustainability optimizations
- VR/AR enhancements

Storytelling Possibilities

- Offers exponential narrative options
- Explores creative plotlines and characters
- Enables boundary pushing structures
- Captivating, evolvable storyscapes
- Mixed media integrations

Enhancing Collaboration

- Fosters human-AI generative synergies
- Unique innovating from interactions
- Co-creation and harmonious fusion
- Best of both machine and human
- Trust and transparency important
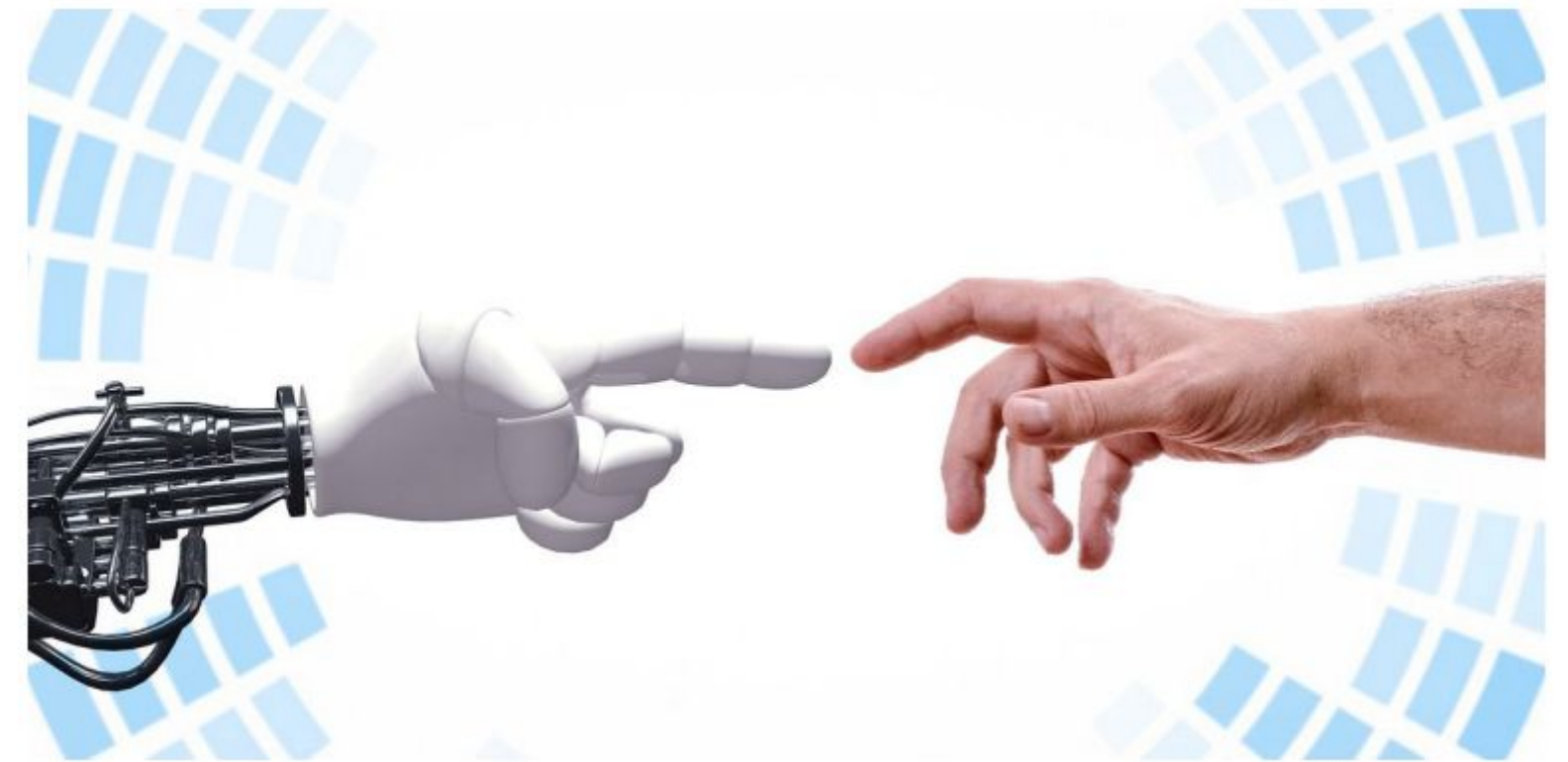
Personalization

- Analyzes user preferences and behaviors
- Tailors content for customization
- Improves audience targeting
- Maximizes engagement and satisfaction
- Establishes two-way connections

Efficiency and Productivity

- Automates repetitive creative tasks
- AI handles time-intensive work
- Frees up creative focus time
- Translates to greater productivity
- Enables higher quality and quantity

Ethical Considerations

- Intellectual property questions
- Copyright and ownership debates
- Transparent AI capabilities info
- Responsible and ethical integration
- "Ethics by design" initiatives
- Deepfakes and misinformation
- Intellectual property questions
- Copyright and ownership debates
- Transparency controls needed

Marketing Applications

- Automated content generation at scale
- Blog posts, social media, web copy
- Improves SEO and advertising
- Enhances personalization

Business Model Disruptions

- New competitors emerging
- Pressures on creative industries
- IP protection complexities
- Subscription model opportunities

Code Generation

- Tools like GPT-3's Codex and GitHub Copilot
- Effective for code snippets
- Identifies and fixes bugs
- Explains what code is doing
- Increases developer productivity
- Facilitates prototyping

Conversational AI

- Tools for dialog like Gemini APIs
- Language models like Gemma
- Contextual understanding
- Conversational consistency
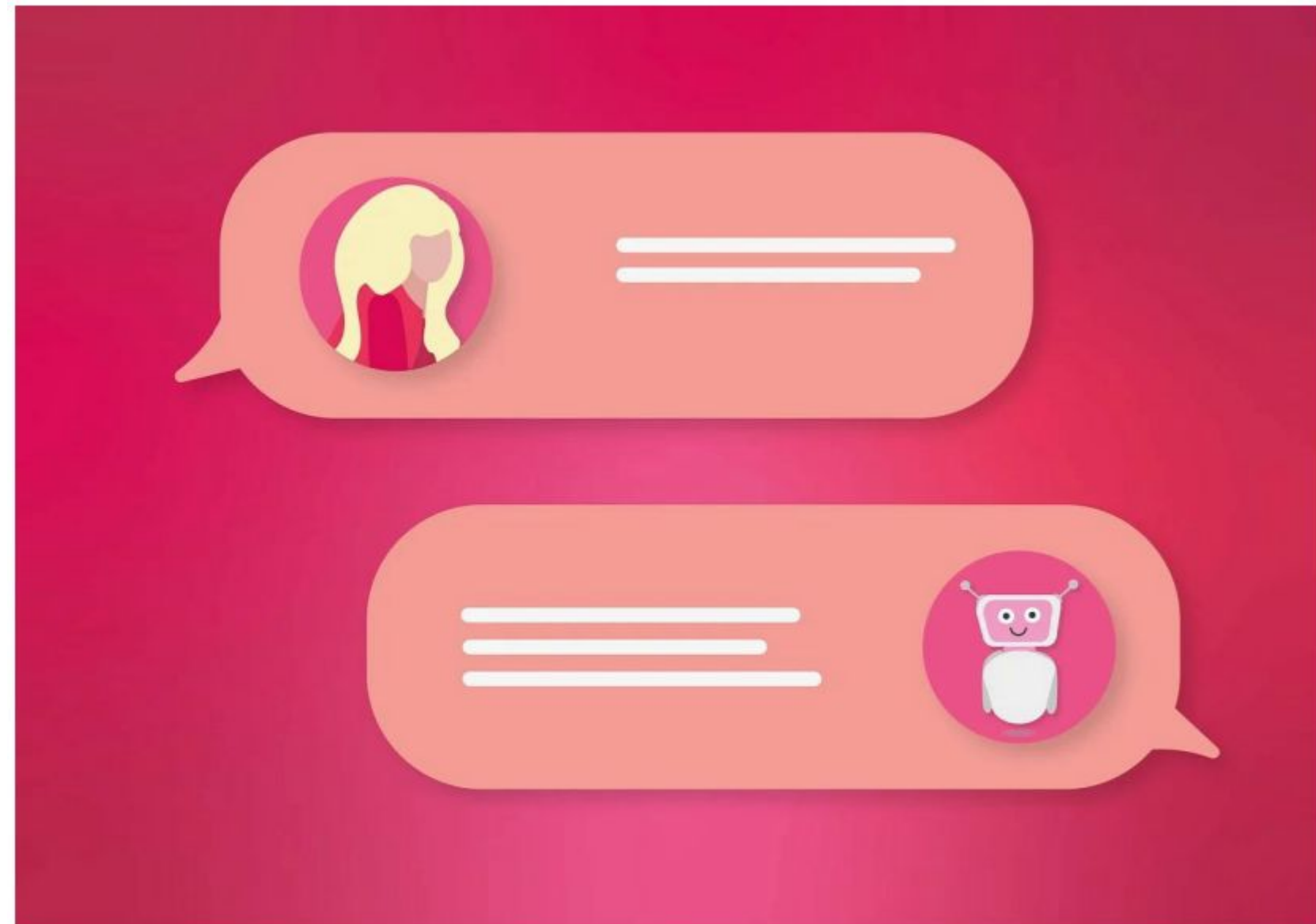
Knowledge Management

- Captures institutional knowledge
- Accessible via prompts
- Enables scaling expertise
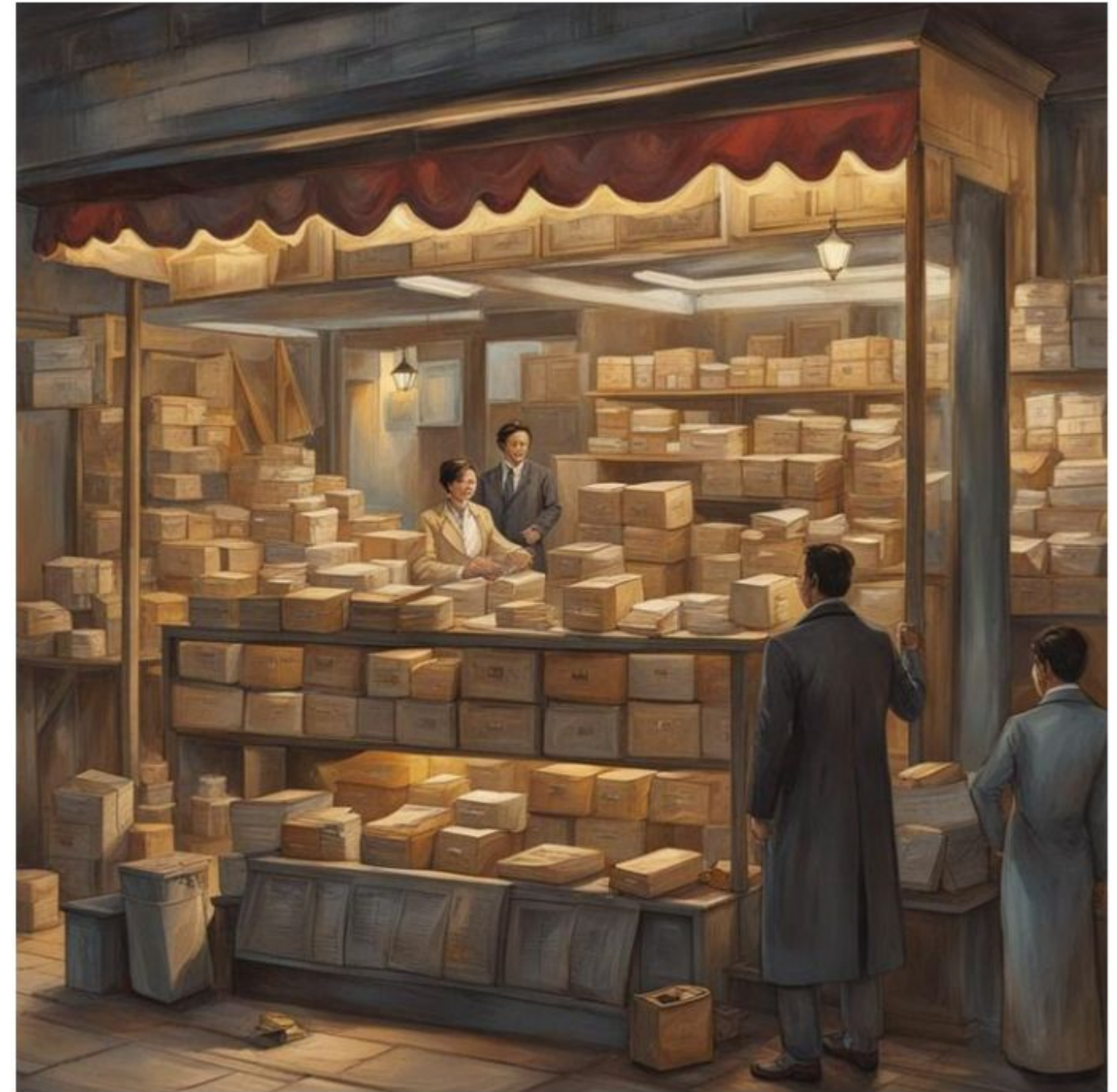- Automates content generation

Section 3

Conclusions

Challenges in Traditional Roles

- Questions traditional creative roles
- Artists/designers reevaluating positions
- Need to balance AI as tool
- Preserving human authenticity

The Future

- Research on human-AI collaboration
- Cross-domain applications
- Audience behavior impacts
- Industry ethics guidelines
- Transformative creative force
- Responsible embracement essential
- Innovative human-AI harmony future

Thank you!!

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