

# The Dangers

unexpected

Comfortable being  
uncomfortable

# The Rise of AI



# Introduction to GenAI/AI

AI for non-techies

A

Invalid Date

Zahid Asghar



# AI for common people

From highly technical to very simple



# The Impact of AI on Creative Work



# AI Won't Replace Humans – But Humans With AI Will Replace Humans Without AI

HBR

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# What Is AI?

- The broad concept where machines simulate human intelligence.
- Rooted in philosophy & economics—what it means “to do the right thing.”
- AI allows machines to perform tasks like decision-making, speech recognition, and problem-solving.

# Simple Examples

- **AlphaGo**: objective = win at Go
- **Navigation apps**: objective = shortest route
- **Automated corporations**: objective = maximize shareholder return
- **Self-driving cars**: objective = drive safely and efficiently
- **CTBT**: objective = detect nuclear explosions
- **Drones**: objective = deliver packages UK-Russia War
- **ChatGPT**: objective = generate human-like text



# What is Machine Learning (ML)?

## Machine Learning (ML):

- A subset of AI that enables machines to learn from data and improve performance over time.
- ML doesn't require explicit programming for each task.

## Types of ML:

# What is Natural Language Processing (NLP)?

## Natural Language Processing (NLP):

- A branch of AI focused on the interaction between computers and human (natural) languages.
- Helps machines understand, interpret, and respond to human language.

**Applications:** - Sentiment analysis (understanding opinions) - Chatbots and language translation tools

**Examples:** - Google Translate - Virtual Assistants

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# Generative AI

## Generative AI:

- A form of AI that creates new content—whether it's text, images, music, or other media—by learning from patterns in existing data.
- Uses deep learning models such as transformers (like GPT) and GANs (Generative Adversarial Networks).

**Examples:** - GPT-4o for text generation - DALL-E for creating images from text descriptions - AI-generated music or art



# Traditional AI vs. Generative AI

## Traditional AI

### **Definition:**

- Analyzes existing data to uncover patterns, trends, or insights.

**Purpose:** - Understand and summarize what's already there.

**Techniques:** - Statistical analysis, clustering, classification.

**Examples:** - Business reports summarizing sales performance. - Tools like Google Analytics offering insights based on historical data.



# Generative AI

**Definition:** - Focuses on creating new content by learning from existing patterns.

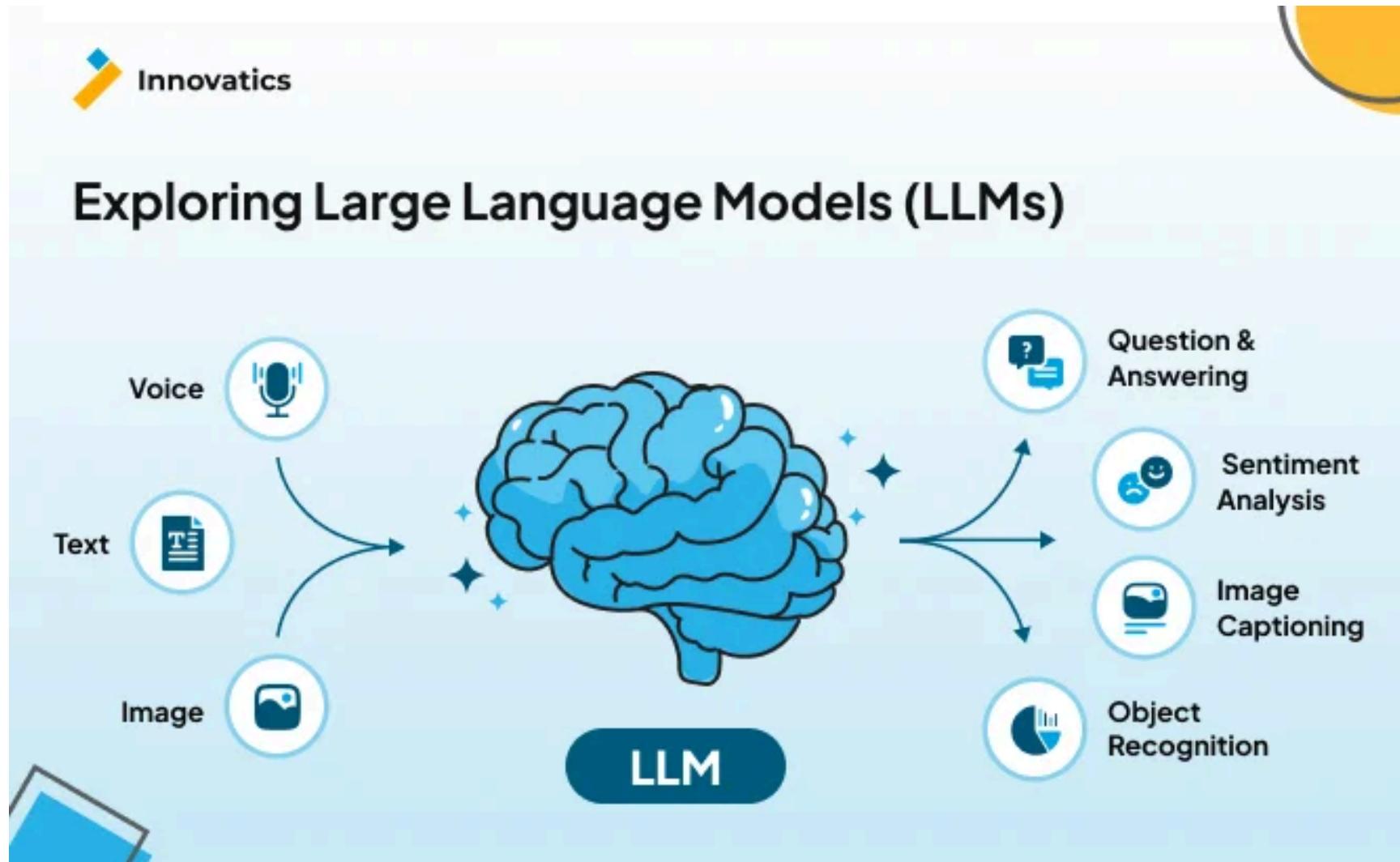
**Purpose:** - To generate something new—whether it's text, art, or even videos.

**Techniques:** - Deep learning models, transformers.

**Examples:** - GPT generating essays, DALL-E creating new images, AI composing music.



# LLMs



# Generative AI in a Nutshell



# Generative AI in a Nutshell

**Prompt Engineering/Design**

- Bad prompt**: You give me an agenda for a workshop. Iteration: prompt → response → updated prompt → response.
- Good prompt**: You give me an agenda for a workshop. Task context: I'm meeting a leadership team at an aerospace consulting firm. The goal of the workshop is figure out how they can use AI. They are new to it. We have 8 people & 4 hours.
- Good prompt**: You give me an agenda for a workshop. Questions: Give me an agenda for a workshop. Feel free to ask me any clarifying questions first!

**Autonomous Agents with tools**

**Computers have gotten smarter**

**How it works**

**Terminology**

**The Age of AI**

**Mindset**

**Emergent Capabilities**

**Training**

**Models, models everywhere**

**Model Types**

**Multimodal Models**

## ## Traditional AI vs. Generative AI (Comparison){.scrollable}

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### ## Key Takeaway

- **Artificial Intelligence (AI)** is the broad field enabling machines to mimic human intelligence.
- **Machine Learning (ML)** is a technique within AI, focused on learning from data.
- **NLP** allows AI to understand and interact with human language.
- **Generative AI** creates new, original content based on learned patterns.
- **Traditional AI** analyzes existing data to provide insights, while **Generative AI** creates something entirely new.



**I dont use AI, I work with AI**

**Dont Ask AI to do your work, ask it to help you do your work**

**You're an AI expert. Please ask me questions to understand my workflows and suggest uses.**



**With AI, people from all backgrounds can now do most tasks efficiently.**



# The Dilemma

- Replicating our unique intelligence
- The Luddite reaction: fears, bans, moratoriums
- Challenge: balancing immense benefits and potential perils

## The Containment Problem

- Technology spreads exponentially, nearly impossible to stop
- Examples: Industrial Revolution, AI, Synthetic biology
- Inventions cannot be uninvented; knowledge proliferates



# What are you?

- **What are you? Explain in one sentence to a 10 year old.**
- **What are you? Explain in two sentences to a university student.**
- **What are you? Explain to a university teacher.**
- **What are you? Explain to an economics research scholar.**



## Some more prompting

**What role could and should generative AI play for supporting effective and engaging evidence-based learning for economists?**

**What challenges AI poses to the traditional role of the teacher in the classroom?**

**What challenges AI poses to policy integrity and evaluation of policies?**

## Fiscal Policy Advisor

**How do 1% increase in GST affects inflation and its consequences on poor segments of the society?**



# What will Iqbal say to youth about use of Social Media

Allama Iqbal, known for his deep reflections on spirituality, selfhood (*Khudi*), and societal progress, would likely have a nuanced view of social media's impact on youth. Here's what he might say:

**1. Distraction from Purpose:** Iqbal would likely be concerned about social media's ability to distract youth from their true purpose. He often emphasized the need for deep self-reflection and personal growth, and he might view the constant scrolling and superficial interactions on social media as hindrances to



# The Role of AI in Idea Generation

- AI can assist in generating ideas, refining questions, and clarifying thought processes.
- Humans still need to iterate and prototype, but AI can generate a high volume of ideas, which humans often struggle with.

**The best way to have a good idea is to have lots of ideas. Humans will need to continue the process of prototyping, testing, and iterating, but humans consistently struggle to produce large quantities of different and new ideas.'**



# Comming Wave & Jobs

- **“AI offers vast tools for augmenting workers and enhancing work. We must master these tools and make them work for us.” David Autor**
- **As per David Autor, the problem is that older models assumed technology ” might raise some boats more than others, but wouldn’t lower any boats. However, as digital technology transformed the globaly economy there was “lots of evidence people were made worse off.”**





# AI Writing and Reading Coach

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- “Collaborative Writing with AI Assistance”
- “Enhancing Writing Skills: AI-Student Collaboration”
- “Feedback, Guidance, and Improvement in Writing”
- “Interactive Reading Comprehension with AI”
- “Analyzing Texts, Answering Questions, and Providing Insights”
- “Enhancing Critical Thinking and Analysis Skills”
- “AI-Powered Teaching Assistant for Teachers”
- “Transformative Potential of AI in Education”
- “Enhancing AI Capabilities for a Magical Learning Experience”
- “Combining Human Intelligence with AI for Educational Advancement”



# Paul Samuelson as your Assistant

**Give a learning outcomes on consumer theory lecture in 3 points with 15 words for each point**

**Differentiate between Marshallian and Hicksian demand function, restrict response to 50 words**

**Explain it in little detail, restrict response to 100 words**

**Give some mathematics**

**Provide a real life example**

**Give slides on Marshallian and Hicksian demand function with learning outcomes**



# The 3 Principles of Macroeconomic Policy Formulation using Gen AI



## Predictive Analytics for Policy Decisions

Gen AI can analyze vast amounts of economic data to predict trends such as inflation, unemployment, and GDP growth. This enables policymakers to make more informed decisions by forecasting economic conditions with greater accuracy.



## Real-Time Data Processing and Insights

Gen AI can process real-time economic data from global

**These key points emphasize how Gen AI can significantly enhance the process of macroeconomic policy formulation by improving forecasting, decision-making, and scenario planning.**



# Text to image

Yet, our educational institutions have not evolved much. **We still put people in lecture halls for one-size-fits-all teaching,** and many companies only offer a couple of days of training per year. This model is outdated.

# Things to be discussed

- Customised advanced tools: Policy Advisor, Fiscal Policy Advisor, Economics Expert,...
- **Coding, Mathematics, Data Analysis ...**
- Technology's Impact on Humanity

# Containment: Can We Do It?



- Navigating the Coming Wave
- **AI and Wars**
- How Ukraine countered largest every military deployment of Russia
- **AI and the Future of Work**



## Prompt

You are hiring a “waiter” The typical daily wage rate is PKR 800. You have 2 candidates. Person 1: Has 1 year(s) of experience in this role. Requests PKR 1100. Person 2: Has 0 year(s) of experience in this role. Requests PKR 900. Who would you hire? You have to pick one.

Explain Solow Growth model to an undergraduate student in 70 words.

Simulate the Solow growth model and plot the results in a four chart.

# Resources



- Re-inventing Education for the Digital Age | David Middelbeck  
| TEDxMünster
- AI for Economists: Prompt & Resources
- Teaching Naked Teaching with AI
- What is Prompt Engineering
- Policy Advisor
- Fiscal policy advisor
- Economics expert
- Tutor me
- Duolingo
- R for economics and Econometrics

