



**STATISTICS**

# **Artificial Intelligence**

**APRIL 7, 2021**

Jim Tebrake  
IMF Statistics Department

# Overview

- **What is Artificial Intelligence?**
- **Artificial Intelligence and National Accounts**
- **Questions for the AEG**

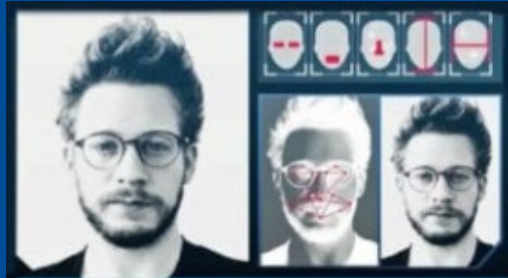
# What is Artificial Intelligence?

- Alan Turing described in the 1950s as “thinking machines”
- John McCarthy coined the term “artificial intelligence” which he defined as “getting a computer to do things which, when done by people, are said to involve intelligence.”
  - ▶ There is no common definition, but one common element is emerging:
    - AI reflects a machine’s ability to respond in a fashion consistent with human reactions.

# What is Artificial Intelligence – Some Applications

- Marketing
- Banking
- Finance
- Agriculture
- HealthCare
- Gaming
- Space Exploration
- Autonomous Vehicles
- Chatbots
- Artificial Creativity

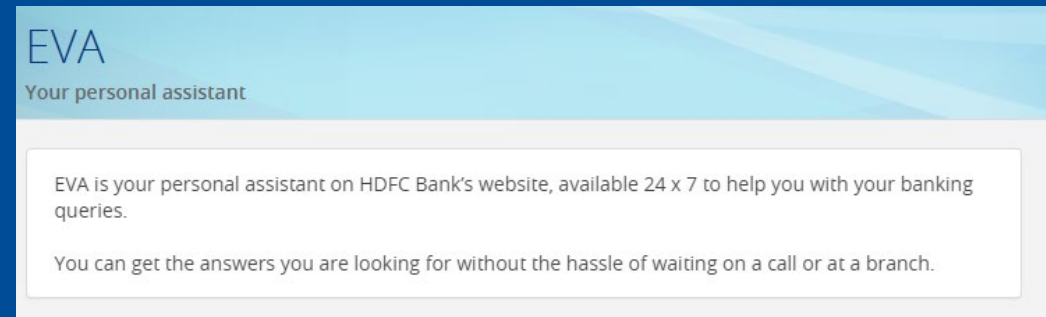
Object Detection



Personal Assistants



HDFC Ban has developed an AI-based chatbot



AI-based public ride-hailing service



# Artificial Intelligence and National Accounts

- Given the likely material impact Artificial Intelligence will have on the economy we need to evaluate whether current macroeconomic accounting standards and classifications record and present all the various dimensions.
- **Specifically,**
  - ▶ Macroeconomics accountants need to consider whether the activity and its output fit within the current production and asset boundaries.
  - ▶ Macroeconomic accountants need to discern the nature of the product and how it is valued and recorded.
  - ▶ Macroeconomic accountants need to examine whether the current classifications and set of accounts properly present the activity to users.

# Artificial Intelligence and National Accounts – Initial Reflections

- AI is produced.
- AI falls within the production and asset boundaries
- AI is not “visible” in the accounts (e.g. it is currently not distinguished from software, hardware)
- It could be argued that AI is factor of production unique from either capital or labor (or that it combines elements of both).
- There is a strong link between data and AI.

# Questions for the AEG

- Do you agree that a guidance note is needed on how to record AI in the SNA?
- What are the main questions that should be addressed in the guidance note, e.g. should the main focus be on how to record the creation of and on how to classify AI, or should the note also focus on the use of AI in production?
- Do you have specific views on the recording of AI?
- Do you know of any work being done in this area?

**Thank you!**

JTebrake@imf.org