# www.ar-tiste.xyz Pitchdeck 2025

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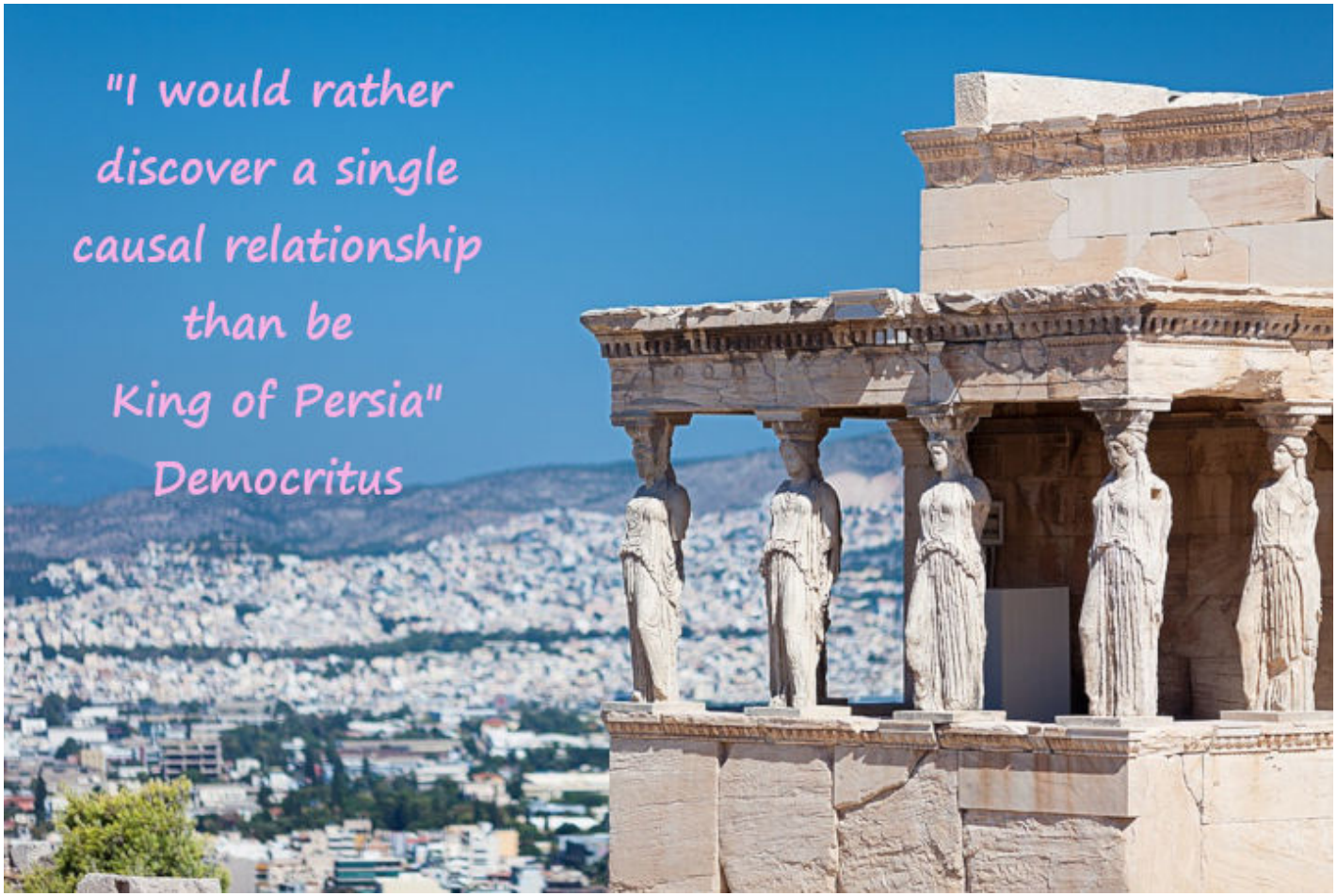
July 8, 2025

# Contents I

# Past: Distinguishing between correlation and causation




Distinguishing between correlation and causation is necessary in all the sciences. It is the goal of science and of the scientific method.

# Present: Clayton Christensen on Causality

"Correlation does not reveal the one thing that matters most in innovation—**the causality behind why I might purchase a particular solution.** [...]
I spent my life developing theories about management. **A theory is a statement of causality.** Every time you as a manager take an action, it's predicated on a theory: If I do this, this will be the result. If we do it this way, we'll be successful."

— Clayton Christensen

Source: https://hbswk.hbs.edu/item/clay-christensen-the-theory-of-jobs-to-be-done

# Future: Spock-GPT

# What problems does ar-tiste.xyz solve?

We specialize in Bayesian Networks, Causal Inference and Causal AI

- AI: adding to LLM the capability to do Causal Inference
- Healthcare and Biotech: finding causal pathways for diseases from symptoms or from genome (Causal Genomics)
- Commerce: A/B testing, Uplift Marketing, finding causes of sales
- Weather (Flood and Drought Anticipatory Action)
- Longevity research
- Dieting
- ...

# Other startups doing what we do

# Mappa Mundi

We have written open source software called Mappa Mundi that seamlessly combines 2 giant topics in Artificial Intelligence (AI):

- Large Language Models (LLM) such as ChatGPT, Grok, etc
- Causal Inference (the gold standard theory for distinguishing between correlation and causation. Invented by Judea Pearl)

# MM: LLM add-ons

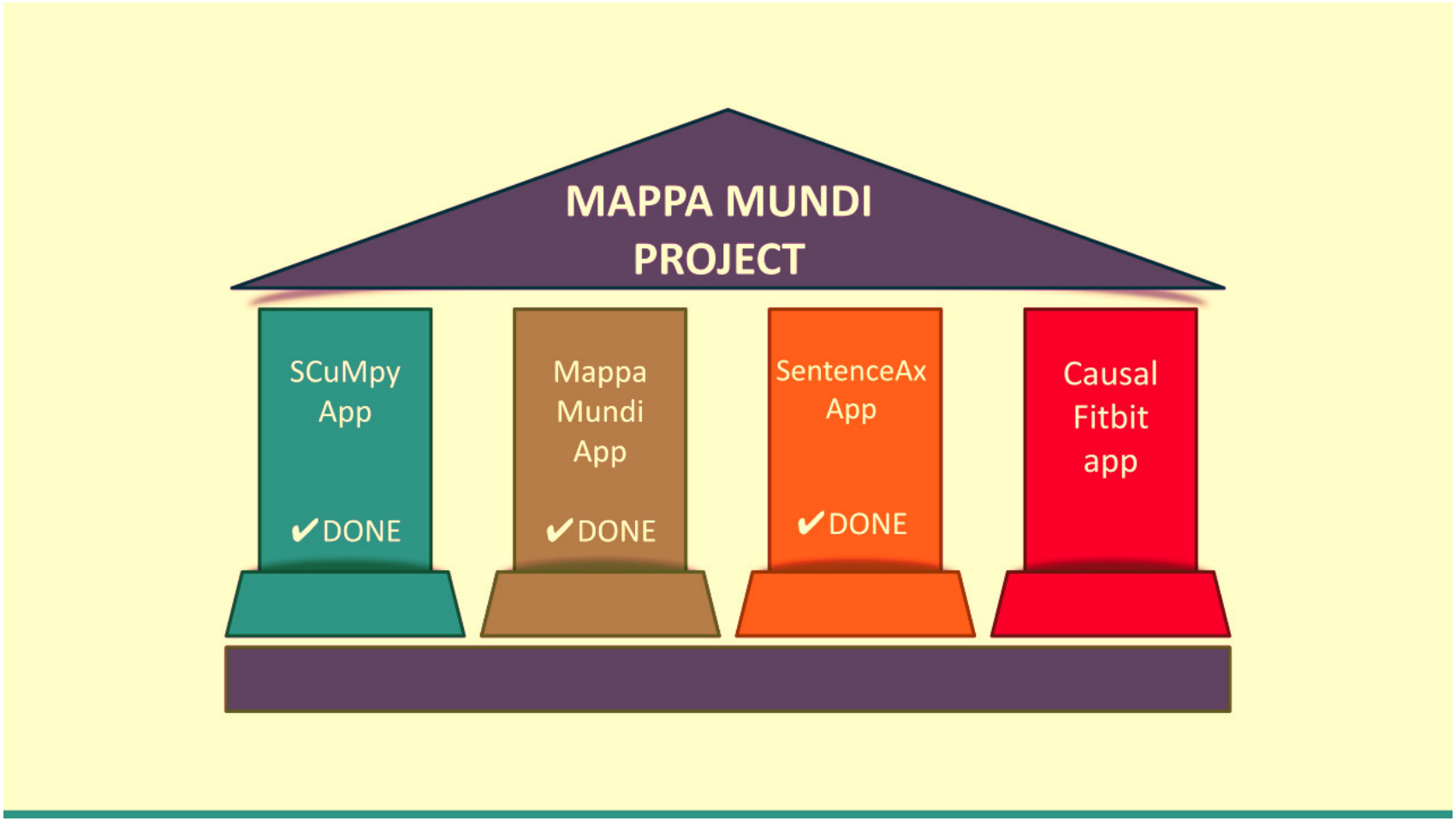
LLMs are currently used merely as exquisite curve fitters. To attain human level intelligence, one needs more than just curve fitters. One also needs to add to LLMs, at the very least, 3 things:

1. a method for discovering causal world models (i.e. DAGs) from data
2. a directory (i.e., atlas) of DAGs. A DAG atlas is necessary so as to remember past DAGs for future reuse.
3. an explicit engine (like our software SCuMpy) for performing Pearl's 3 rungs of causal inference and the closely related scientific method

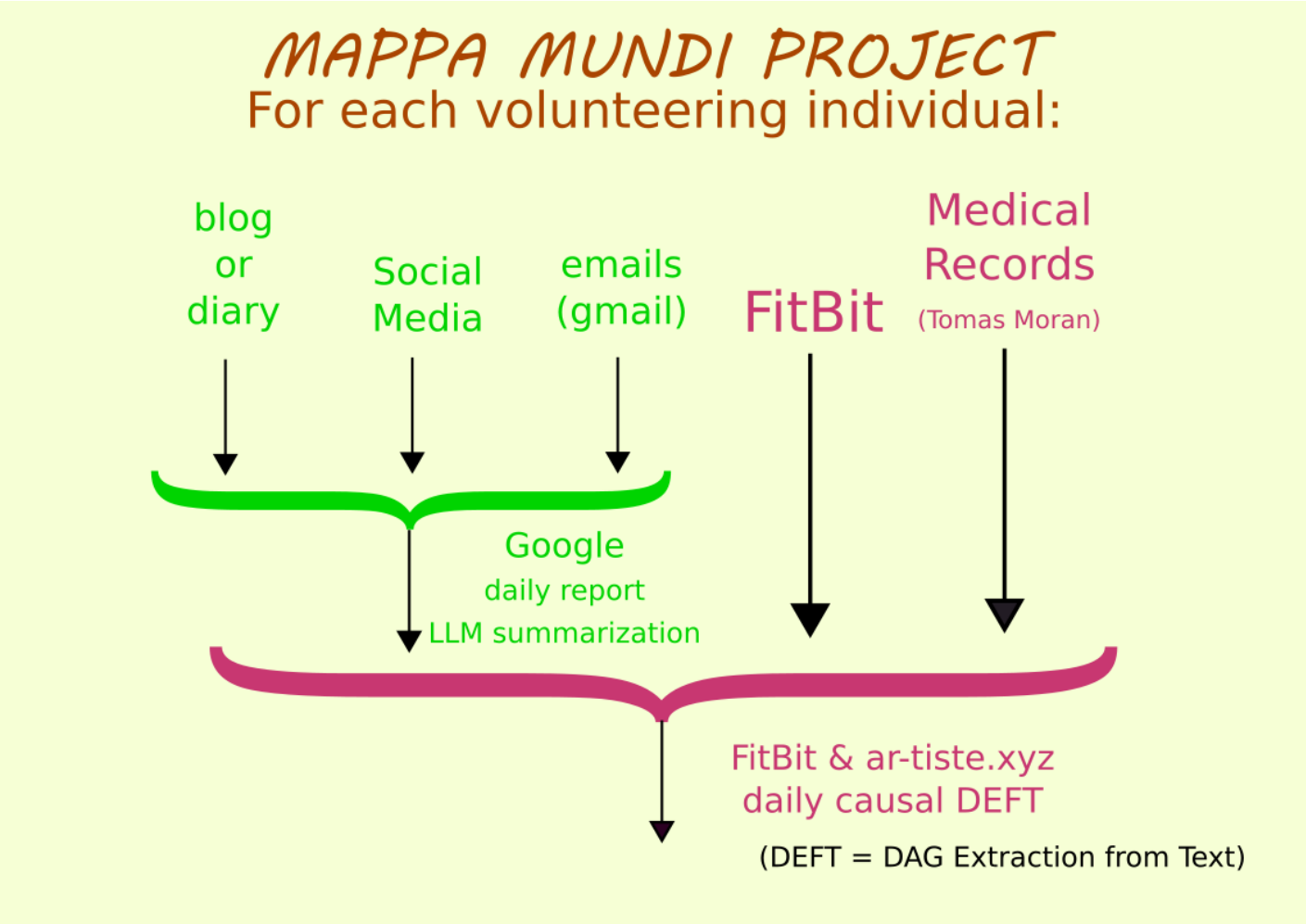
Our software Mappa Mundi accomplishes 1, 2, 3.

# MM: 4 apps

SCuMpy, Mappa_Mundi, SentenceAx, CausalFitbit



# MM: Finding Causal Pathways for diseases

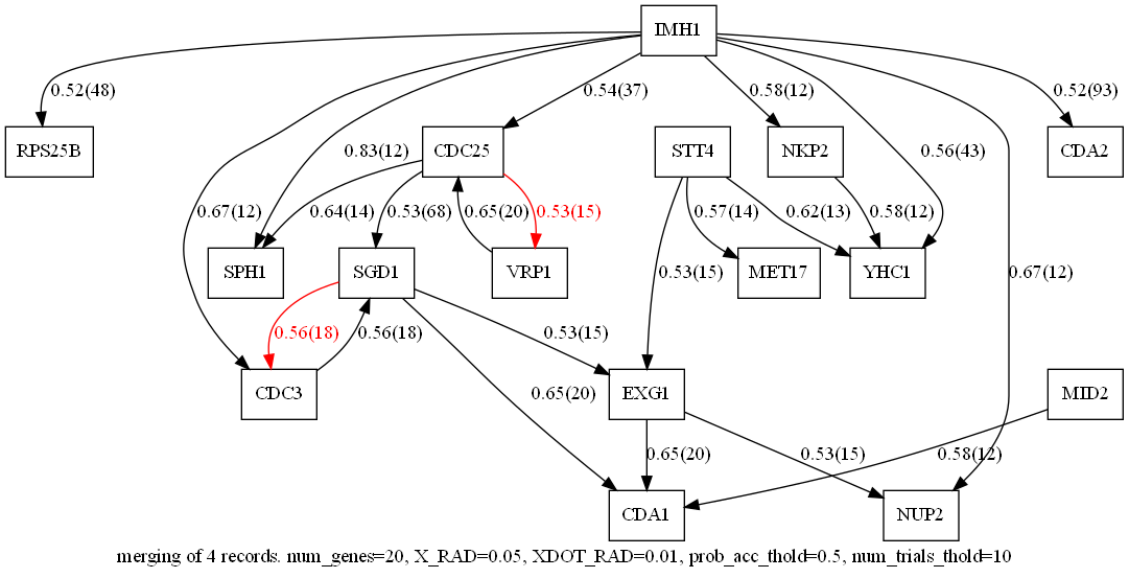



How Google can crush its LLM competitors OpenAI and Meta by Bard-ifying its FitBit product line.

# MM: features

- Mappa Mundi (MM) is free open source software that extracts causal networks (DAGs) from text.
- MM works with any text that does chronological storytelling, such as novels, movie scripts, time stamped lab notebooks and patient diaries. It can be used to find causal pathways to diseases.
- MM uses 2 types of state of the art (SOTA) LLMs
  1. Openie6 – for SOTA sentence simplification
  2. sentence transformers – for SOTA sentence similarity
- MM is immune to hallucinations because 1 and 2 are immune
- MM is immune to copyright infringement lawsuits because 1 and 2 did not use copyrighted data to train.
- MM can't be hacked by prompt injection because it doesn't use prompts.

# Causal Genomics

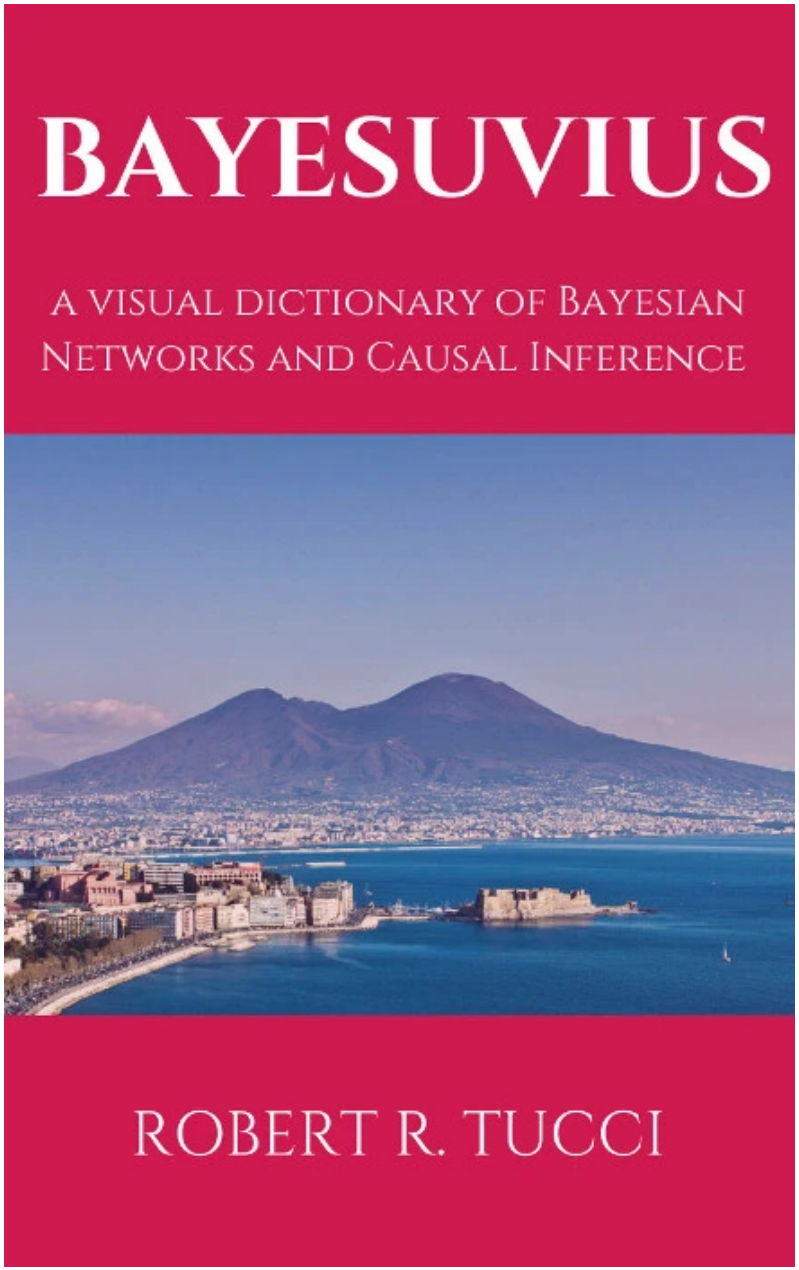



Gene_Causal_Mapper is a python program for discovering a causal Dag for genes via the Mappa Mundi (MM) algorithm.
The software applies the MM algorithm to finding what are called Gene Regulatory Networks (GRN), Autoregulon Nets and Network Motifs in the Genomics and Systems Biology literature.
As an example, we apply it to the DREAM3 dataset for yeast.
See also our Causal Genomics Challenge

# Flood and Drought Anticipatory Action

We are/were consultants for a project under the auspices of ICPAC (IGAD Climate Prediction and Applications Center) Delivering climate services to Eastern Africa

# Book: Bayesuvius




Our free, open source book (1,000 pages). Available in pdf form here.