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🚀 Building robust software systems hinges on what I term "debug-ability" – the ability to pinpoint and rectify issues when things don't go as expected.

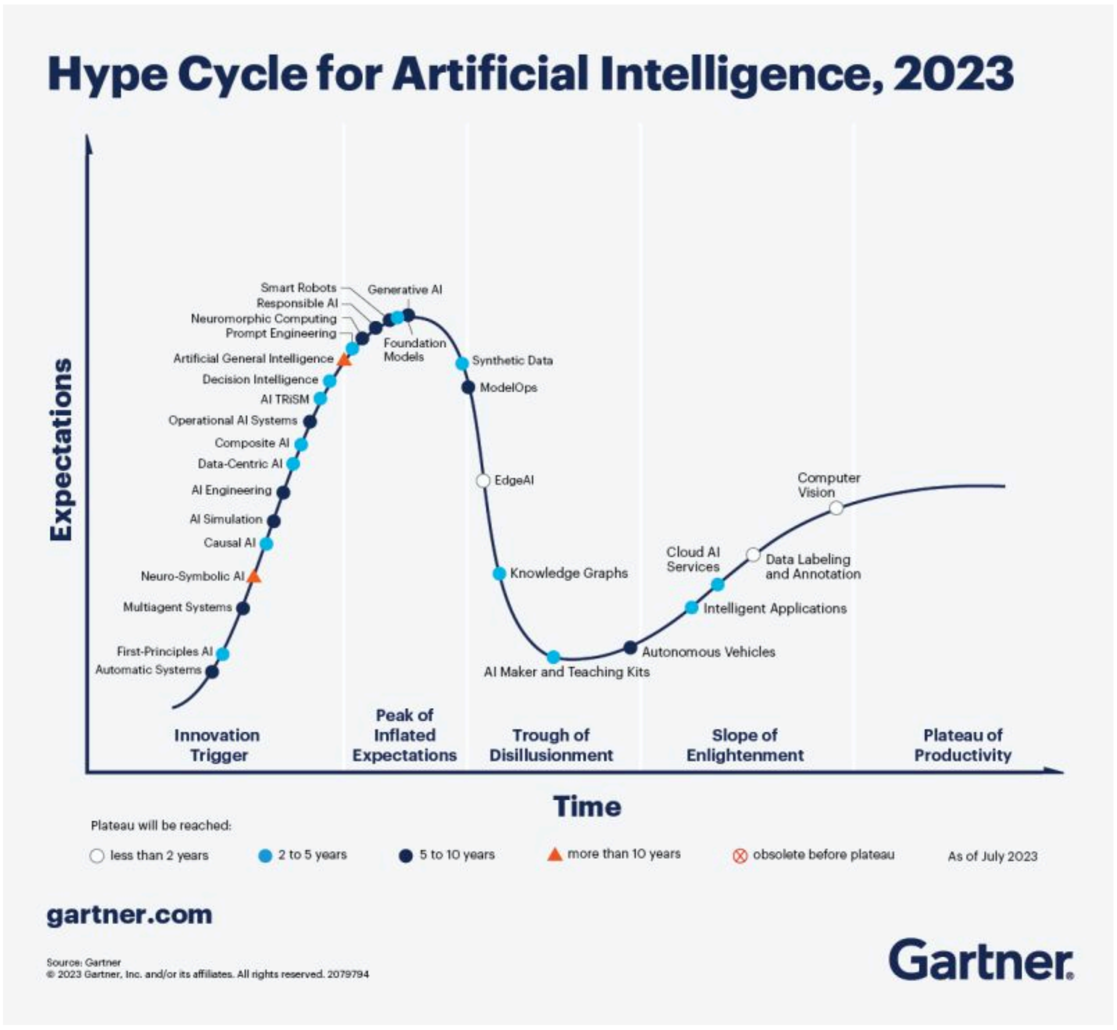
➡️In the past, in the era of rule-based programming, debugging involved manual inspection, time-consuming efforts, and expertise. Although challenging, it was manageable.
➡️With the advent of Machine Learning, debugging became more nuanced. Data inspection, algorithm changes, and feature engineering became the norm, albeit reducing the debug-ability handles compared to rule-based approaches.
➡️The rise of Deep Learning further reduced these handles. With limited control over feature engineering, adjustments primarily focused on network architecture and activation functions.
➡️ Enter Large Language Models (Foundation Models), where debug-ability faces a new frontier. When faced with incorrect outputs, do we adjust parameters like top_k, top_p, temperature, or switch the entire model? Achieving desired outcomes often entails prompt engineering, Retrieval Augmented Generation, fine-tuning, and pre-training. However, this progression comes at an increasing cost and complexity.

💡 In essence, Generative AI isn't a one-size-fits-all solution, especially for complex software development. The chosen approach should align with factors such as available curated data, expertise, and budget, prioritizing debug-ability. unless you're pursuing it solely for publicity.

As indicated in the Gartner Hype Cycle 2023, Generative AI currently rides the peak, with the 'Trough of Disillusionment' looming ahead. Are we bracing for the bubble to burst? Will we revert to classical NLP or embrace a hybrid approach integrating rules, NLP, and Generative AI?

What do you think?

#SoftwareDevelopment #AI #MachineLearning #DeepLearning #NLP #GenerativeAI #GartnerHypeCycle 📉


Hype Cycle for Artificial Intelligence, 2023
Expectations
Smart Robots
Responsible AI
Neuromorphic Computing
Prompt Engineering
Generative AI
Foundation Models
Artificial General Intelligence
Decision Intelligence
AI TRiSM
Operational AI Systems
Composite AI
Data-Centric AI
AI Engineering
AI Simulation
Causal AI
Neuro-Symbolic AI
Multiagent Systems
First-Principles AI
Automatic Systems
Synthetic Data
ModelOps
EdgeAI
Knowledge Graphs
AI Maker and Teaching Kits
Autonomous Vehicles
Intelligent Applications
Cloud AI Services
Data Labeling and Annotation
Computer Vision
Innovation Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity
Time
Plateau will be reached:
○ less than 2 years
● 2 to 5 years
● 5 to 10 years
▲ more than 10 years
⊗ obsolete before plateau
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