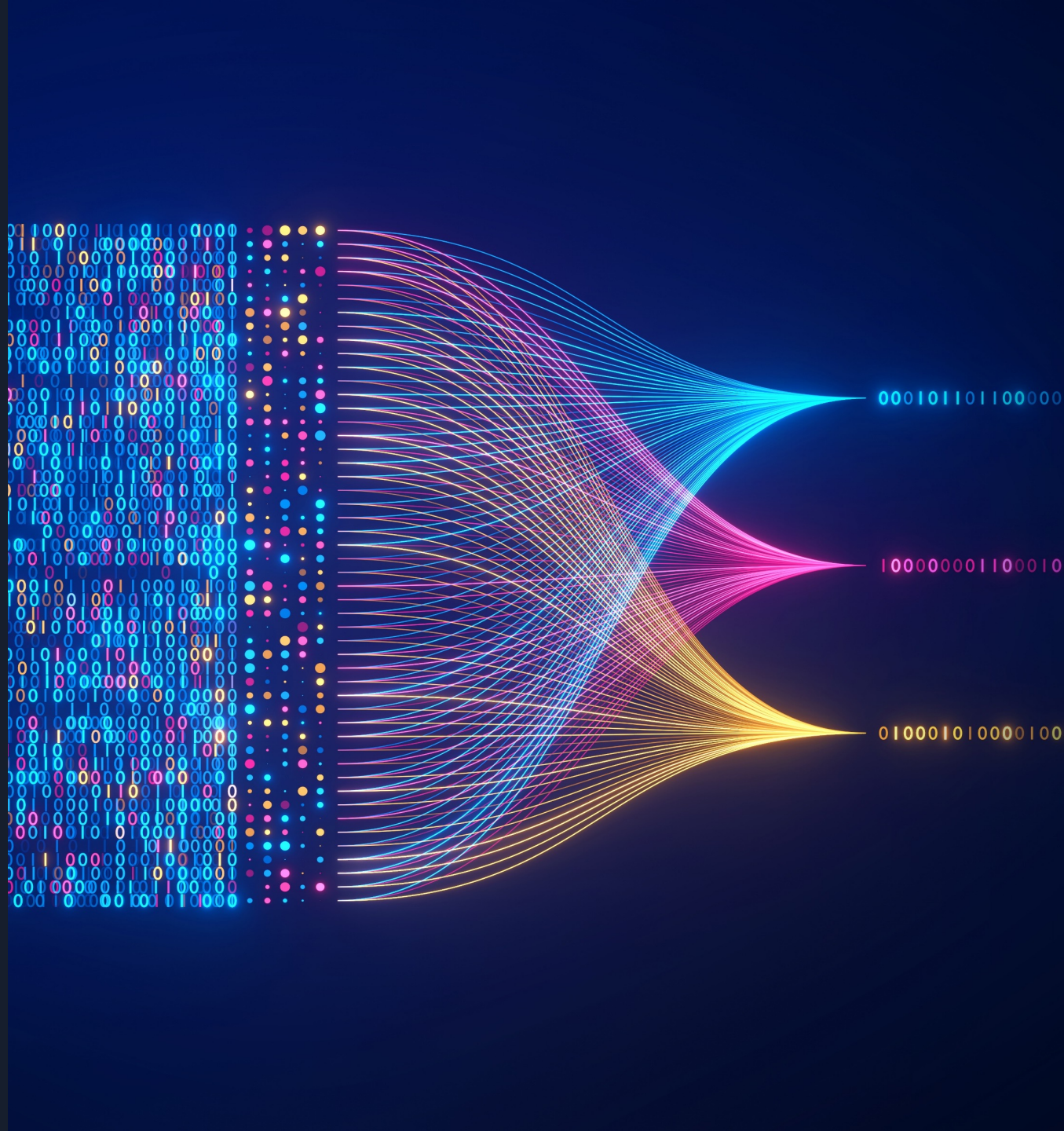
Key trends in AI and the skills that matter

Mary Strain

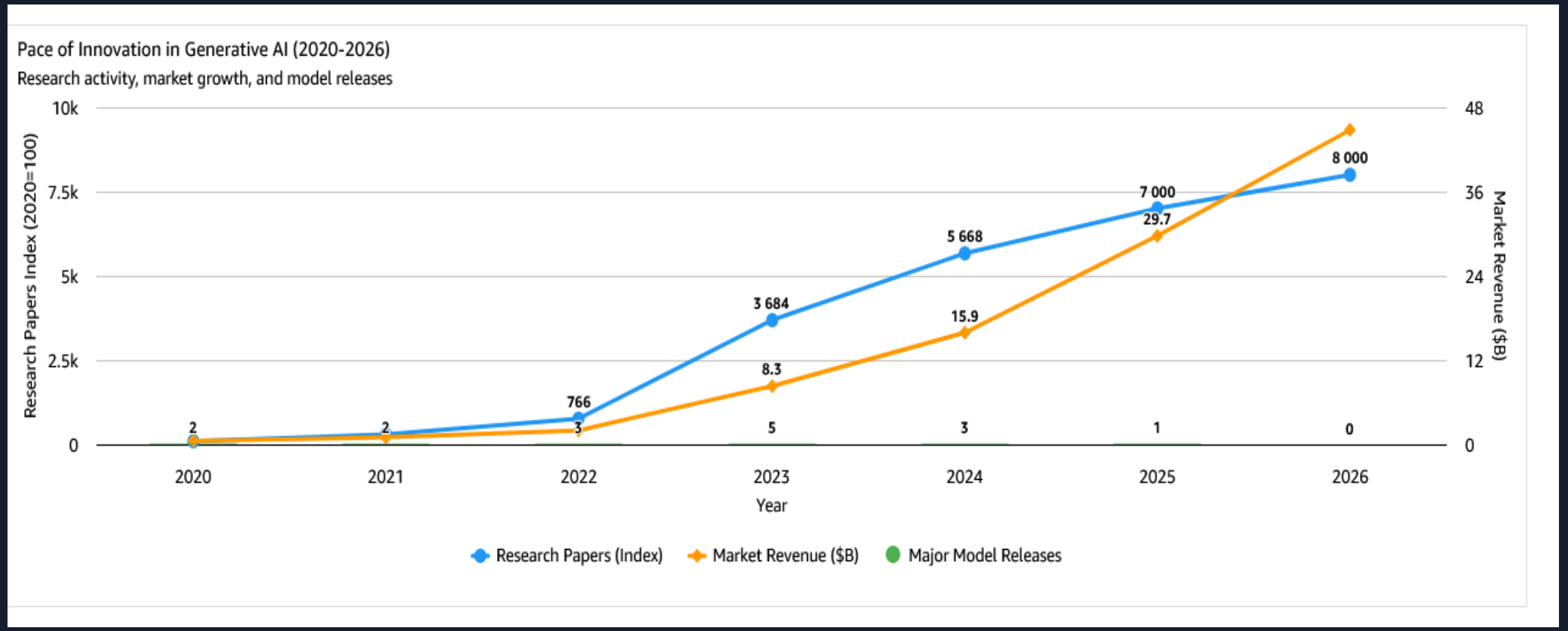
Strategist, AI and Machine Learning
AWS

Key technical and business trends

Generative AI is powered by foundation models



Pace of innovation



IDC Worldwide Generative AI Software Services Market Shares
Accenture Technology Vision 2025
AWS

AWS Responsible AI dimensions

Controllability

Having mechanisms to monitor and steer AI system behavior

Privacy & Security

Appropriately obtaining, using and protecting data and models

Safety

Preventing harmful system output and misuse

Fairness

Considering impacts on different groups of stakeholders

Veracity & Robustness

Achieving correct system outputs, even with unexpected or adversarial inputs

Explainability

Understanding and evaluating outputs generated by an AI system

Transparency

Enabling stakeholders to make informed choices about their engagement with an AI system

Governance

Incorporating best practices into the AI supply chain, including providers and deployers

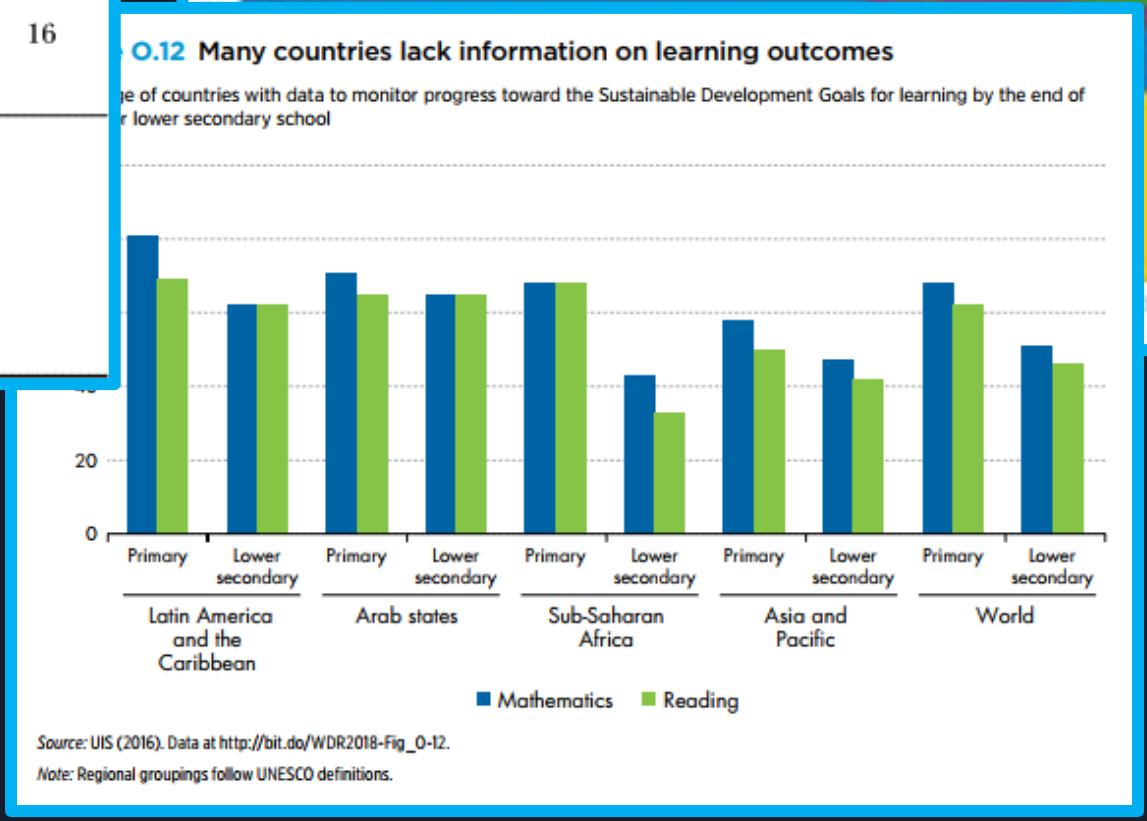
Key Trends

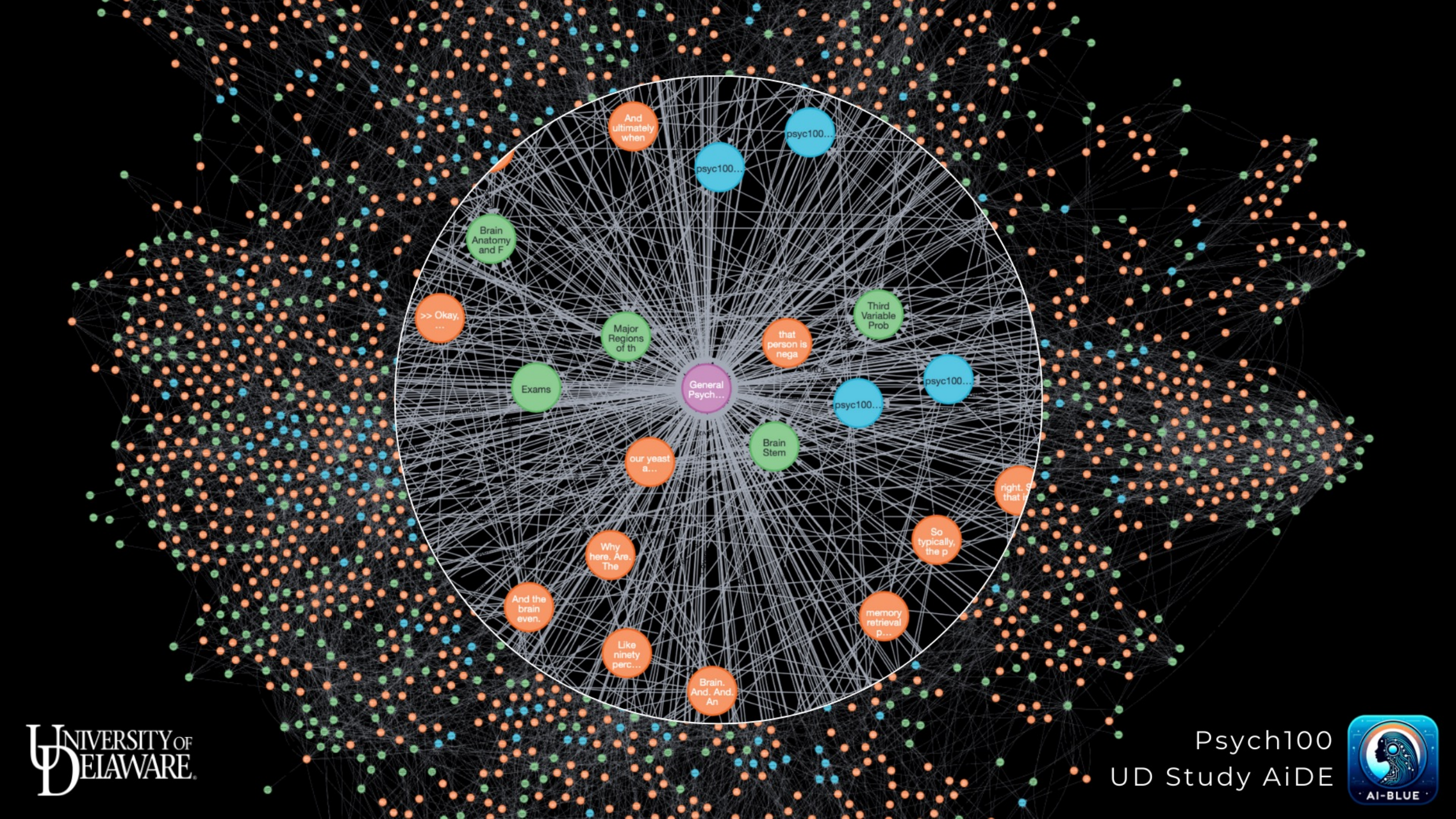
Data Modernization	• Data is not AI ready • GenAI for data
Measurable Value	• Operational use cases • Build vs Buy
Agentic AI	• Re-engineering processes • Agentic governance
AI as Infrastructure	• Flexible infrastructure • Bedrock; AI Factories

Customer	custID	custName	custCity	creditRating
	C101	Martinez	New York	20
	C105	Jones	London	20
	C110	LeBlanc	Paris	15
	C118	Wright	New York	10
	C125	LeBlanc	Montreal	18

Item	itemNo	itemName	price	supplier	qtyOnHand
	I1001	widget	2.99	Ace	200
	I1004	manifold	5.50	Acme	
	I1010	widget	3.75	Wright	150
	I1015	brace	6.80	Ace	16

Order	orderNo	custID	itemNo	qtyOrdered
	O10101	C101	I1004	50
	O10102	C105	I1010	30
	O10103	C118	I1015	5
	O10104	C101	I1001	30
	O10105	C125	I1015	10





UNIVERSITY OF DELAWARE

Psych100
UD Study AiDE

AI-BLUE

Key technical trends in AI 2025

Agentic AI as Primary Interface

Multi agent orchestration

Plan, reason and execute multi step workflows

Hybrid Model Architectures

LLMs +specialized or smaller models

Model distillation

Domain/task specific models

On-Device and Edge AI

Fast inference on consumer hardware

Local inference with privacy

AI embedded in apps

Synthetic Data Pipelines

Synthetic data for pretraining

Agent loops to refine training

Reduced copyright/privacy risk

LLM and tools for code execution

Write, test and execute code

Generate full artifacts

Long Context Windows

> 1M Tokens

Entire data rooms, repos and histories

Deep reasoning

Efficient and accessible fine tuning

Reduced GPU requirements

On device fine tuning

Small data sets to adapt models

Improved reasoning and verification

LLM as a judge

Formal reasoning tools integrated into agent loops

Multi modal as default

Improved perception = >action

Robotics, documentation and UI automation

Security and governance

Agents managed as humans

Data provenance

Responsible AI as an engineering discipline not just policy

Modern Data Foundations

Data strategy =AI Strategy

AI to enhance data modernization

Business Trends: Scale and Speed

The current market size for AI is **273.6 billion USD**.

The market is expected to reach a value of **5.267 trillion USD by 2035**.

A Compound Annual Growth Rate (CAGR) of **30.84%** is projected until 2035.

AI capability is reportedly **doubling every 3.5 months**, an exponential rate that is **100x faster than a year ago** in some contexts.

Key business trends in AI 2025

AI as enterprise strategy

Data Modernization

Efficiency and Productivity

New Products and Solutions

Responsible AI

Governance

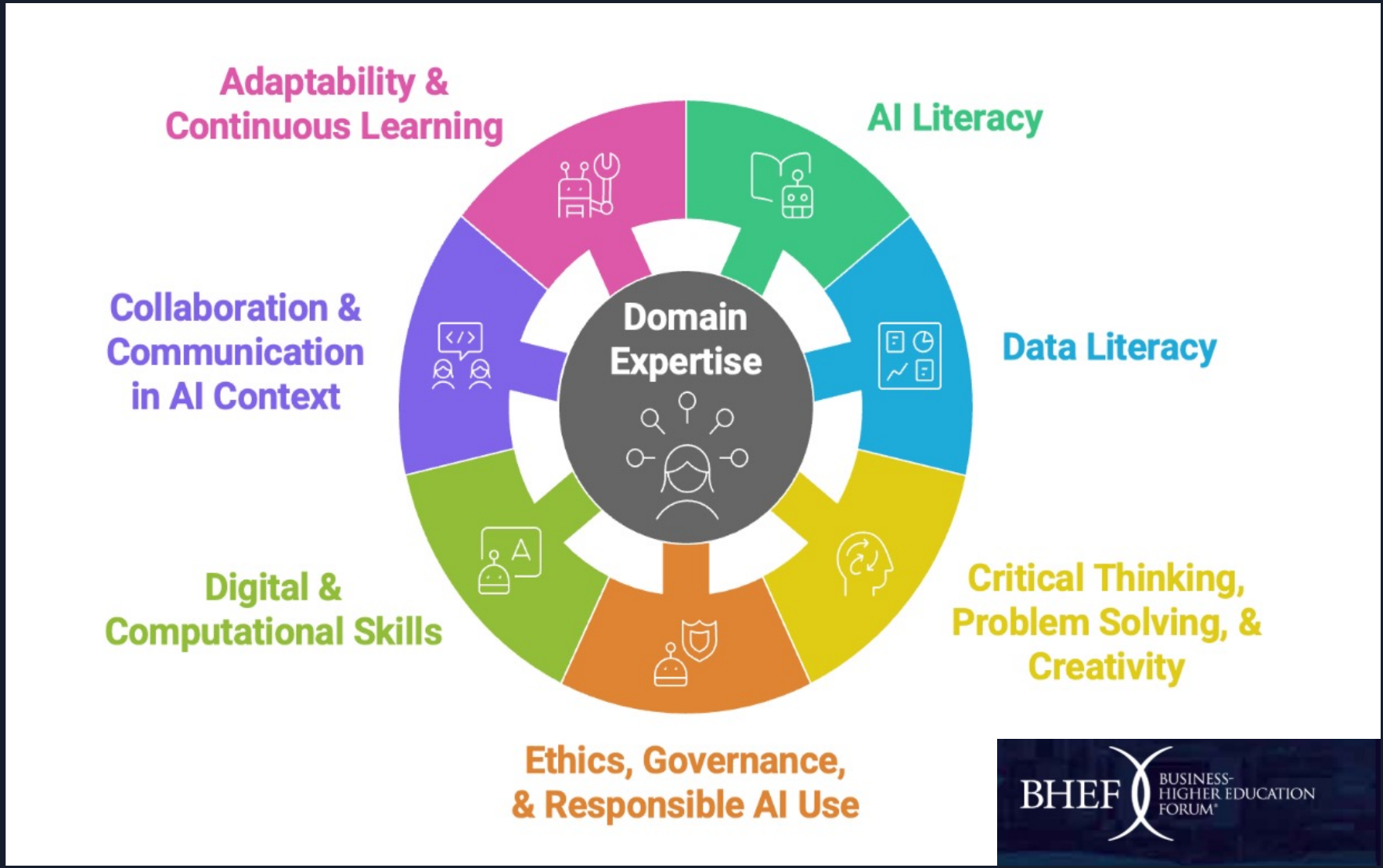
What are the skills necessary to compete in the age of AI?

“AI Literacy represents the technical knowledge, durable skills and future ready attitudes required to thrive in a world influenced by AI. It enables learners to engage, create with, manage and design AI, while critically evaluating its benefits, risks, and ethical implications”

EU AI Act, OCED, UNESCO and other organizations

Teach AI Skills Framework

Business and Higher Education Competency Framework



Key skills and dispositions

AI and data literacy

Durable skills

critical thinking, problem framing, communication, teamwork, curiosity, leadership

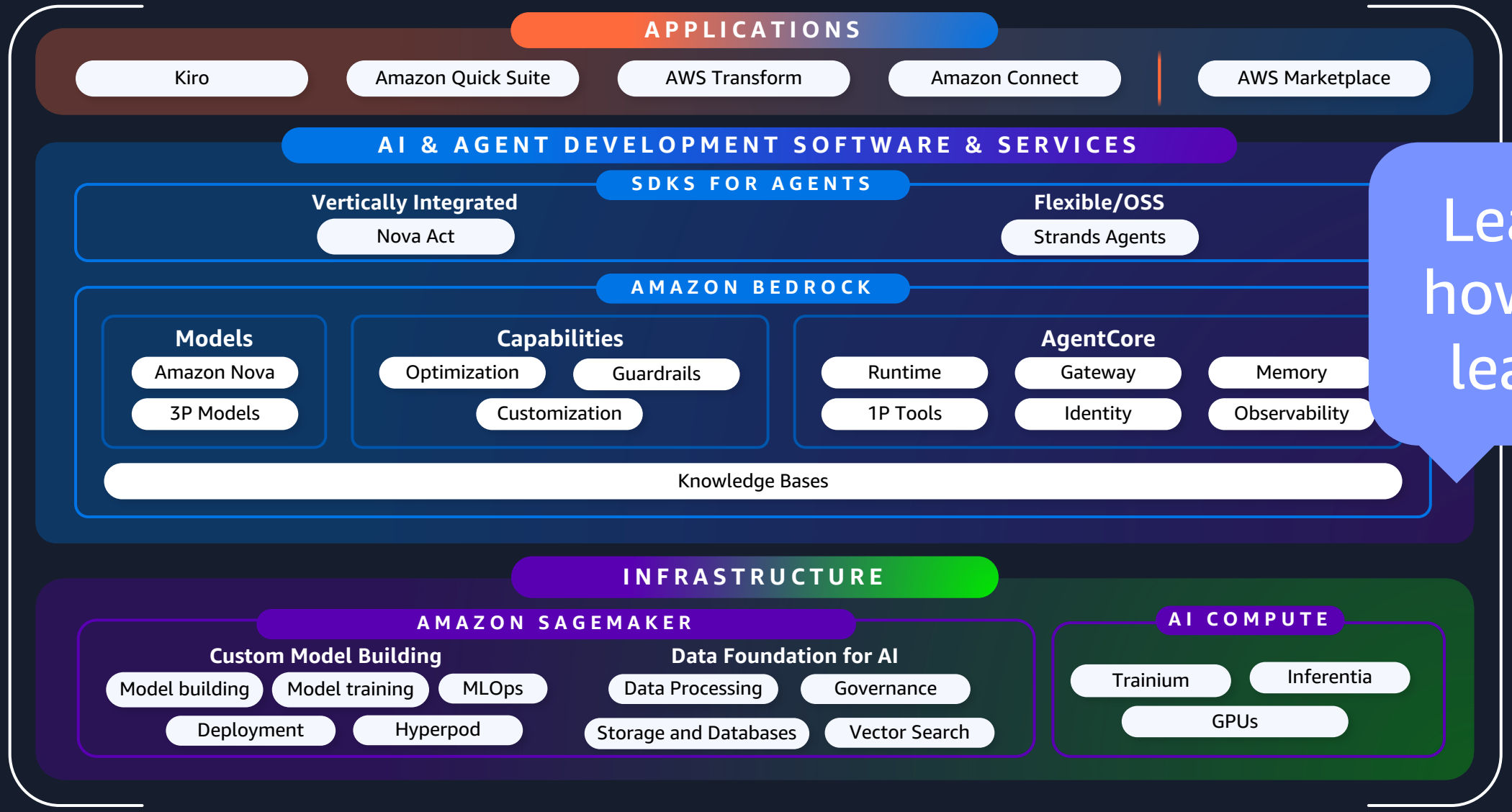
Experience and domain expertise

Continuous learning

Portfolio of work

Networking

AWS AI portfolio



Learn how to learn

Is AI Overhyped?

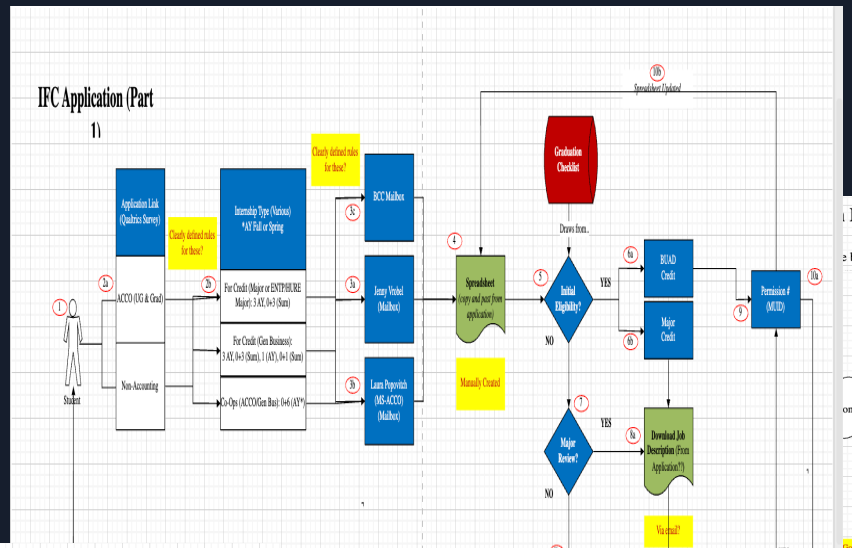
"If anything, it's under-hyped because you are fundamentally automating businesses," he said.

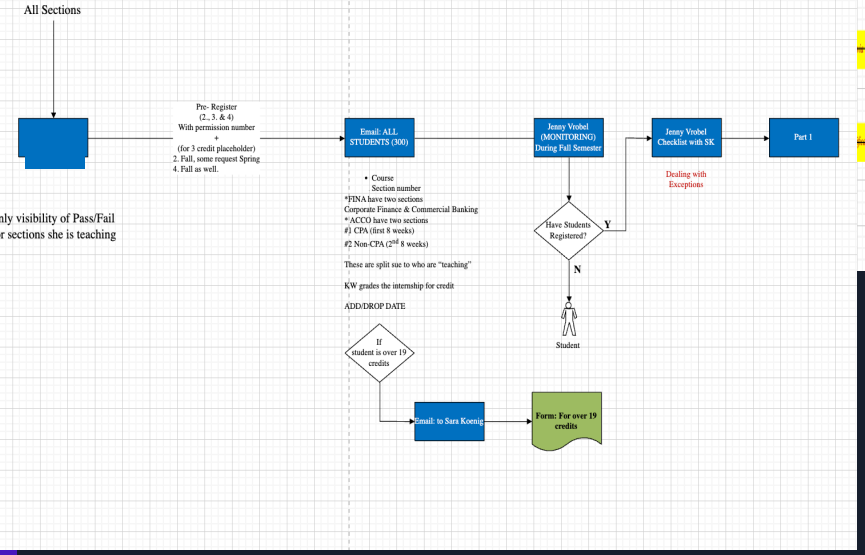
The real transformation, he said, is happening deep inside companies, where AI systems are beginning to take over the "boring" tasks that quietly consume billions in corporate spending."

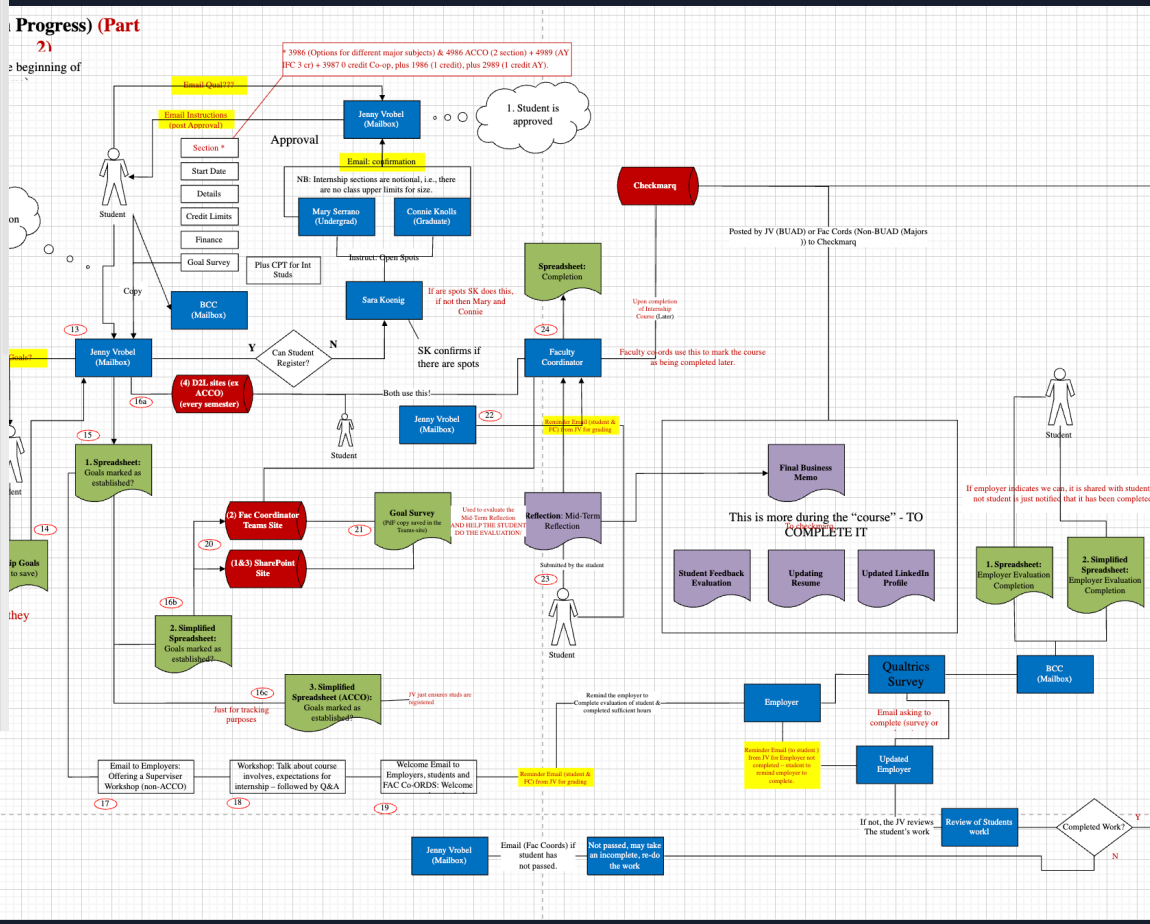
Eric Schmidt, Ex CEO Google

John F Kennedy School, Harvard University
December 2025

Can we do better?







What do you want to stop doing?

Q and A

Thank you!