



FUTURE TALENT FORUM 2024

BUILDING THE FUTURE WITH AI

BALANCING THE PROMISES AND CHALLENGES

Richie Jones (he/him)

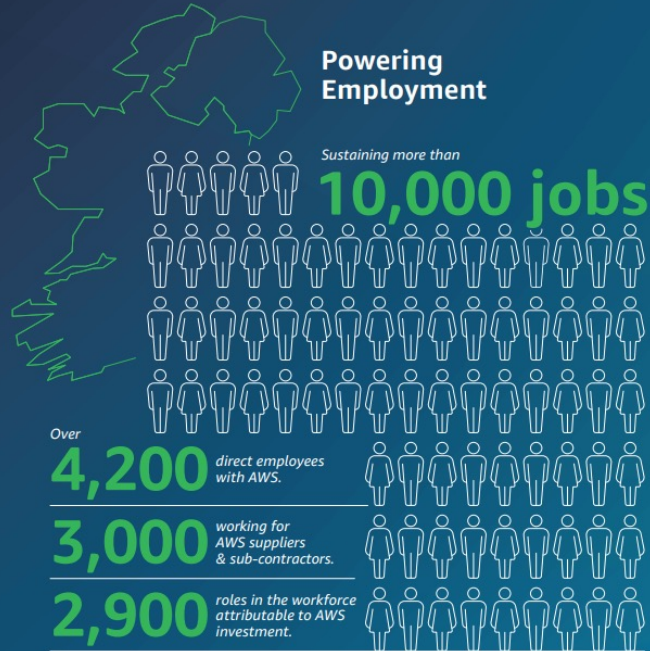
Enterprise Technologist
Amazon Web Services



Investing. Growing. Partnering.

AWS Impact in Ireland

Powering Employment

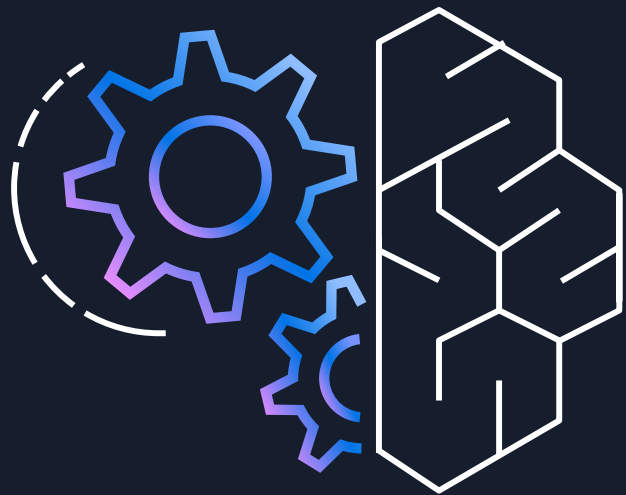


Fostering cloud infrastructure and creating export opportunities for domestic contractors



Creating economic opportunities for Ireland through new data centre infrastructure





Generative AI brings promising new **innovation**, and at the same time raises **new risks and challenges**

AI – WHAT DO I MEAN ?



Artificial intelligence (AI)

Any technique that allows computers to mimic human intelligence using logic, if-then statements, and machine learning



Machine learning (ML)

A subset of AI that uses machines to search for patterns in data to build logic models automatically



Deep learning (DL)

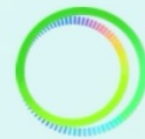
A subset of ML composed of deeply multi-layered neural networks that perform tasks like speech and image recognition



Generative AI (GAI)

Powered by large models that are pretrained on vast corpora of data and commonly referred to as foundation models (FMs). LLMs (large language models) are part of generative AI focused on language tasks.

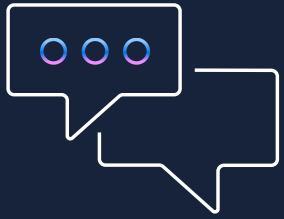
slalom



CoolPlanet



WHY IS COOLPLANET USING AI?



NEW EXPERIENCES



PRODUCTIVITY



INSIGHTS



CREATIVITY

2023

THE YEAR OF LEARNING



What is generative AI?

Is this secure?

Do I need to become a prompt engineer?

How do I choose a model?

Where do I get started?



What does this mean for my business?

What is a Foundation Model?



Which models should we try out?

What is FM?

What is a Large Language Model?



2024 THE YEAR OF IMPLEMENTATION

(FOR SOME)



How do I prioritize my projects?

How can I lower my costs?

How do I make this real?

What customization method should I use?



How I can I scale this?

Which models should I use?

Should I train my own model?

How do I manage risks?



How can we move faster?



LOOKING FORWARD TO 2028

What do companies expect?



86%

to adopt AI Tools across
their organization



91%

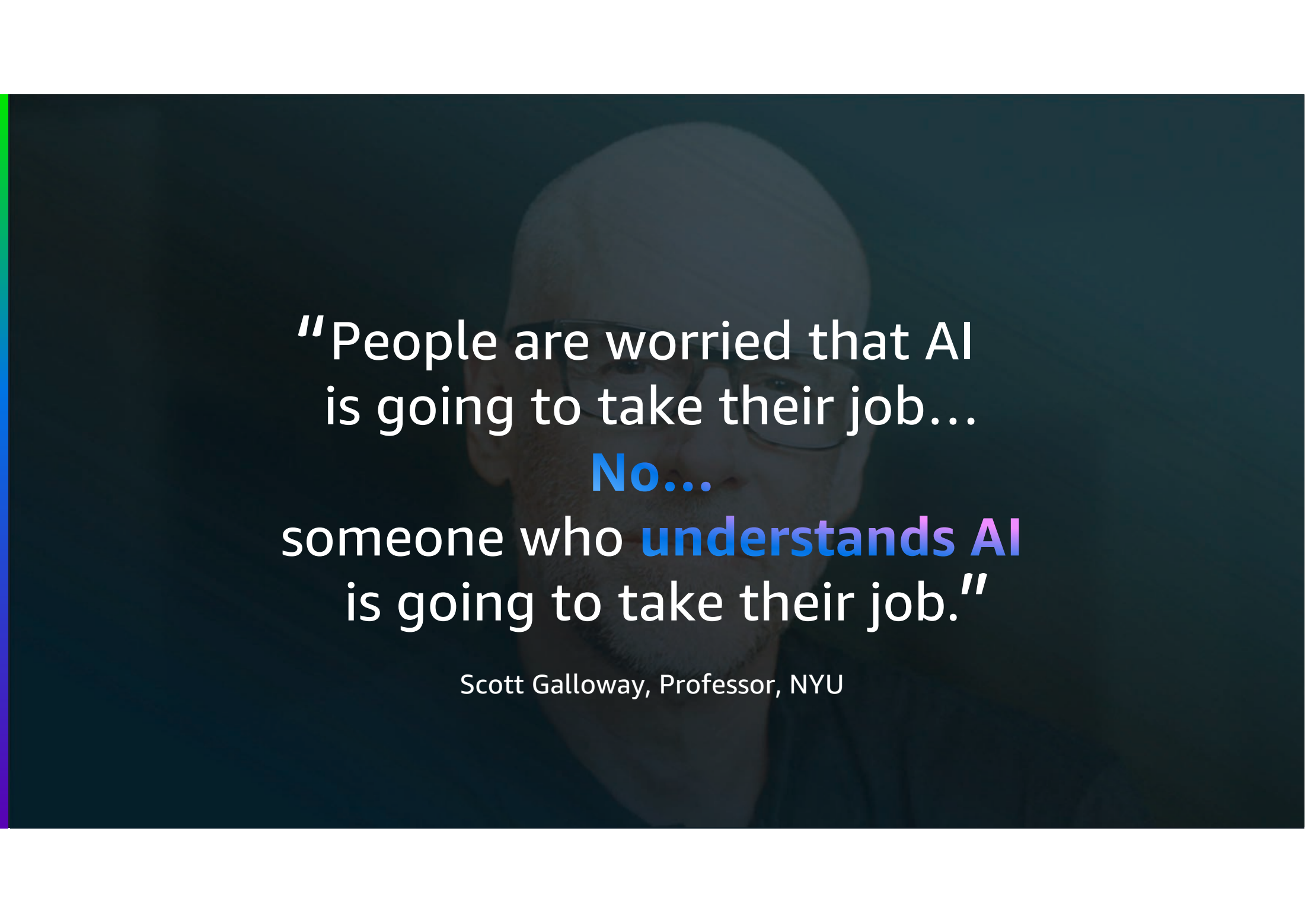
to see benefits from
using generative AI



41%

AI technologies to increase
organizational productivity





"People are worried that AI
is going to take their job..."

No...

someone who **understands AI**
is going to take their job."

Scott Galloway, Professor, NYU

SKILL EVALUATION



What is my
inventory of skills?



How will my skills needs
change over time?



How is our industry
and business model
changing skills required?

THE SKILLS YOU NEED

Data science and machine learning



Software engineering



Cloud engineering



Domain knowledge



Critical thinking and problem-solving



UNDERSTAND PERSPECTIVES



CREATING A “BOUGHT-IN” TEAM



**BE CLEAR ON THE
'WHY'**



Give them meaning



**HOW WE ARE
DOING IT**



Give them confidence



**WHAT IS IN IT
FOR THEM**



Why they should care

SELECTING THE RIGHT PROJECT



**BE DRIVEN BY
BUSINESS VALUE**

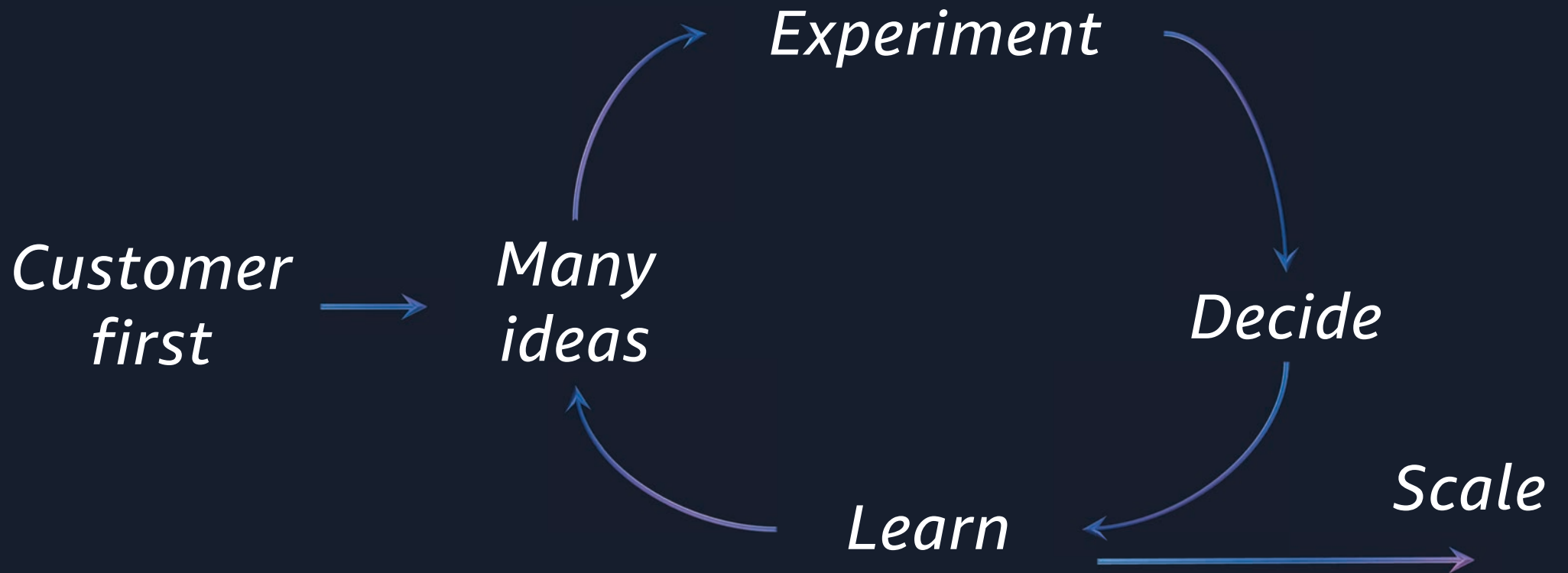


**PLAN TO GROW...
NOT JUST TO CUT**



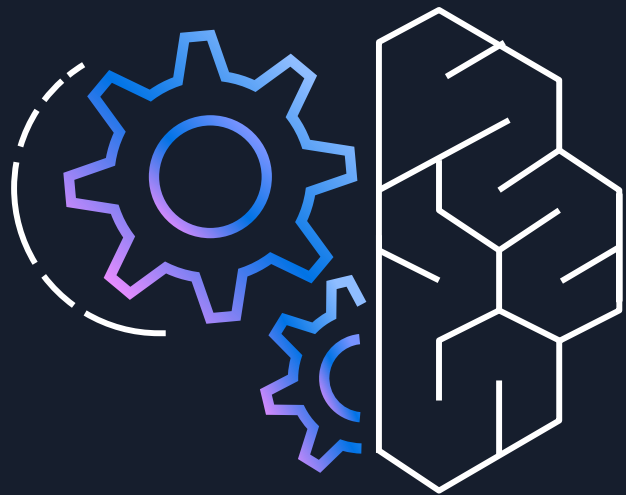
IMPACTFUL

IMPLEMENTING THE RIGHT PROJECT



AND REPEAT !





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EMERGING RISKS AND CHALLENGES



**VERACITY
(E.G.,
HALLUCINATIONS)**



**TOXICITY
& SAFETY**



**INTELLECTUAL
PROPERTY**



DATA PRIVACY

VERACITY (E.G., HALLUCINATIONS)



VERACITY (E.G., HALLUCINATIONS)

Foundation model output
that is verifiably false,
based on information in
the prompt or in external
knowledge repositories

Human

tell me about some papers by michael kearns

Assistant

Michael Kearns is a prominent computer scientist known for his work in machine learning, computational learning theory, and algorithmic game theory. Some of his well-known papers include:

- "Axioms of Computational Complexity for Multi-Player Games" (with Yevgeniy Dodis) - This paper proposed some of the first complexity theoretic frameworks for studying multi-player games. It introduced concepts like polynomial-time Nash equilibria that have become central to algorithmic game theory.
- "An Experimental Study of the Coloring Problem on Human Subject Networks" (with Laura Fortunato) - This paper studied graph coloring experiments on social networks, providing insight into human cognitive and social behavior.
- "Laws of the Game: How the Principles of Game Theory Apply to Life" (with Ken Arrow) - This popular science book explained game theory and its applications in an accessible way for general audiences.
- "Learning in the Presence of Malicious Errors" (with Richard Lipton) - This seminal paper studied the problem of PAC learning in the presence of malicious noise. It introduced the "agnostic learning" framework which has become central to studying robust and adversarial machine learning.

EMERGING RISKS AND CHALLENGES



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DATA PRIVACY

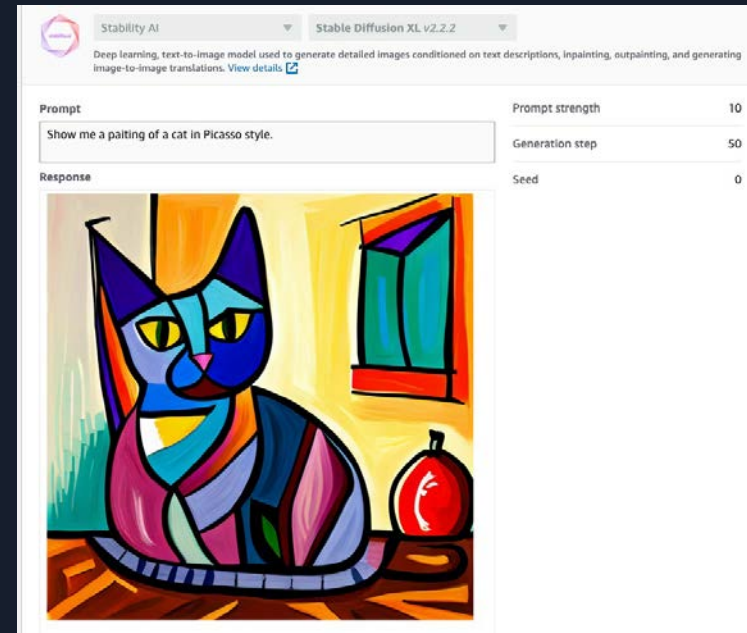
INTELLECTUAL PROPERTY



INTELLECTUAL PROPERTY

Tendency of early LLMs to produce outputs that were verbatim regurgitation of parts of their training data, resulting in privacy and copyright concerns

Ask a foundation model to create a painting of a cat in the style of Picasso



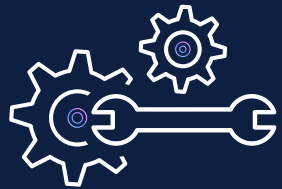
RESPONSIBLE AI:

“AI that is innovative and trustworthy and respects human rights and democratic values”



RESPONSIBLE AI CONSIDERATIONS

CONTROLLABILITY



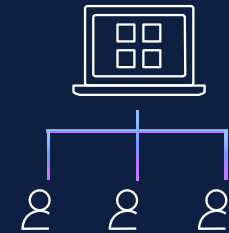
PRIVACY &
SECURITY



SAFETY



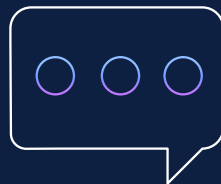
FAIRNESS



VERACITY &
ROBUSTNESS



EXPLAINABILITY



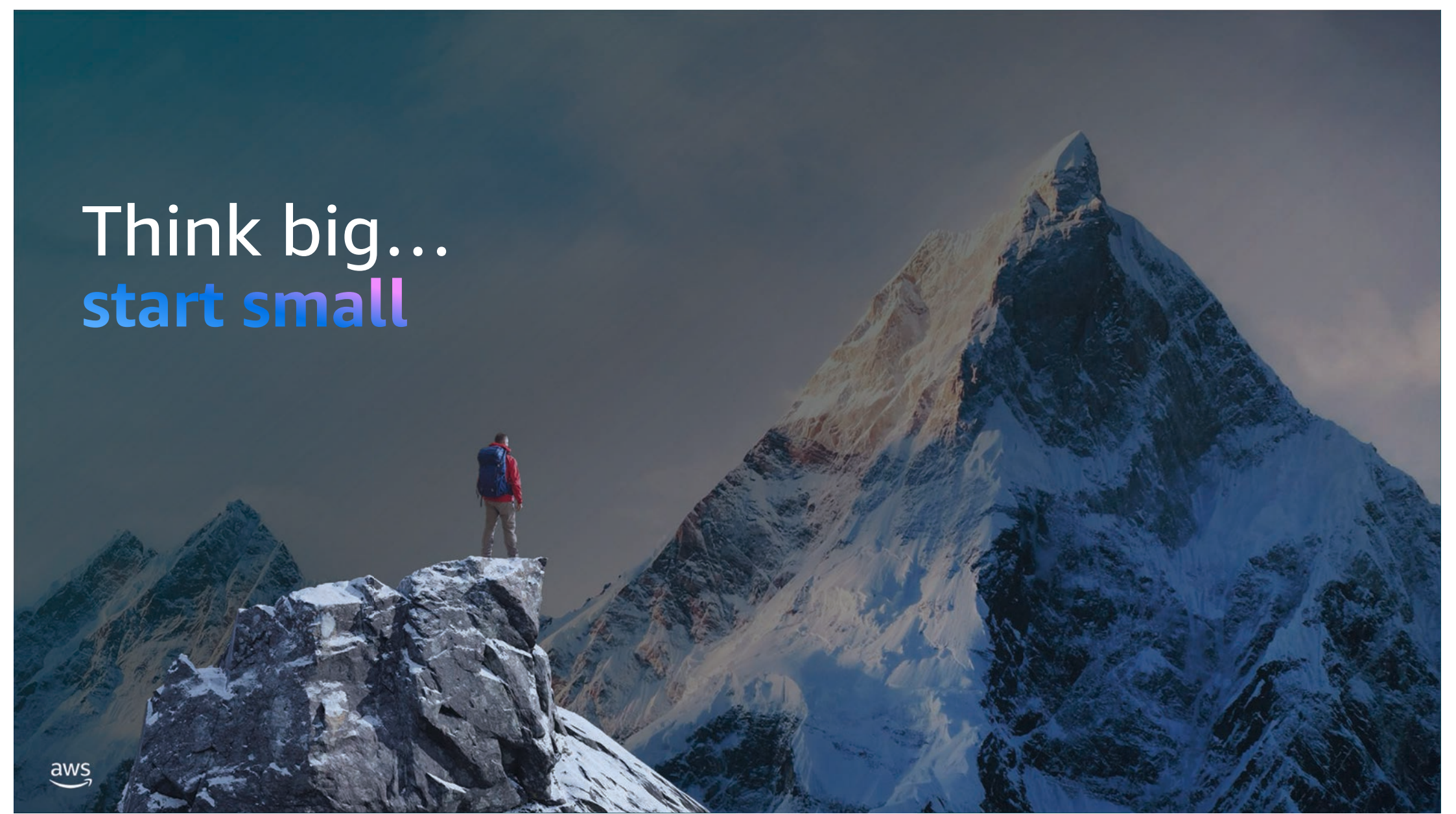
TRANSPARENCY



GOVERNANCE



Think big...
start small



Thank you!

Richie Jones

Enterprise Technologist
Amazon Web Services

