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#STechDay2021

SINGULARITY

TECH DAY_2021

The era of AI and Cognitive Services

Envisioning Tomorrow:

How Microsoft approaches AI Innovation

plain concepts

ORGANIZATION

SPONSORS

THANK YOU!

Ester de Nicolas Benito

Director of Innovation Marketing

Ester de Nicolas is the global director of innovation marketing at Microsoft, where she defines storytelling and incubation strategies for long-term technologies collaborating across different research and engineering teams. She holds a master's degree in telecommunications engineering specialized in microelectronics and robotics and started her career as a researcher in medical technologies. She has performed different roles in areas such as High-Performance Computing, Open-Source Software, Cloud computing, and Artificial Intelligence both in HP and Microsoft for the last 16 years.

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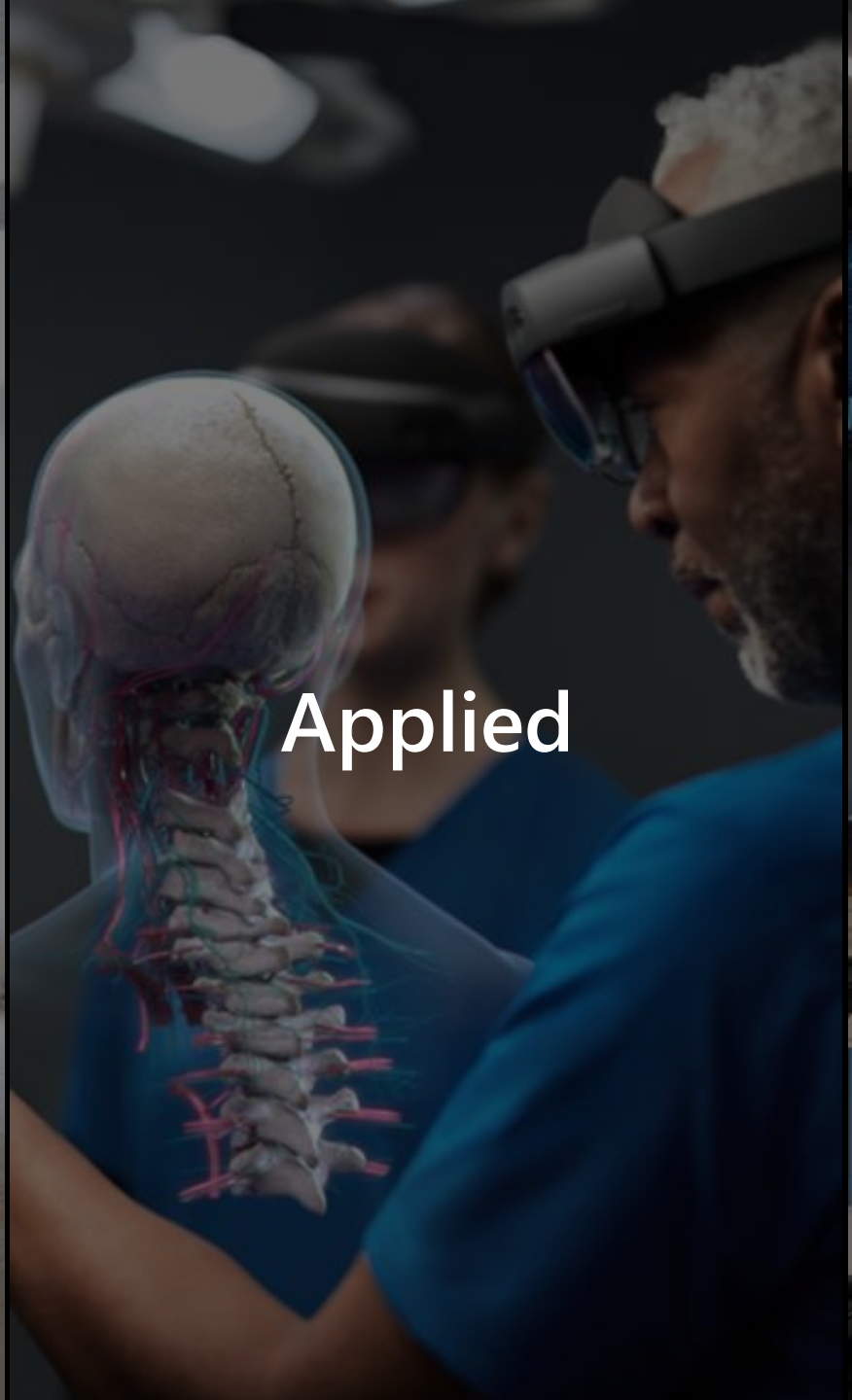
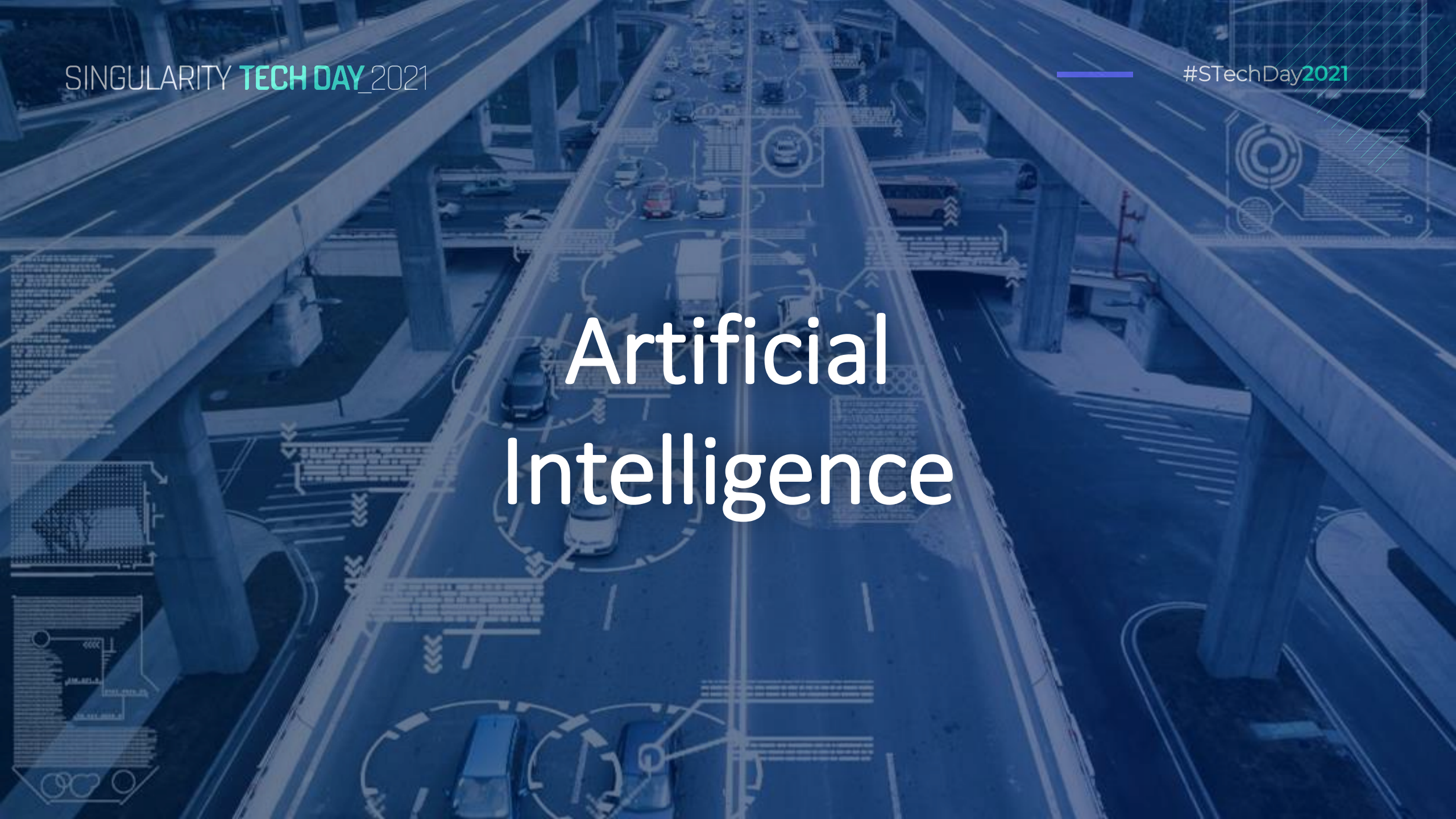
Innovation is a journey…

Meaningful



Applied

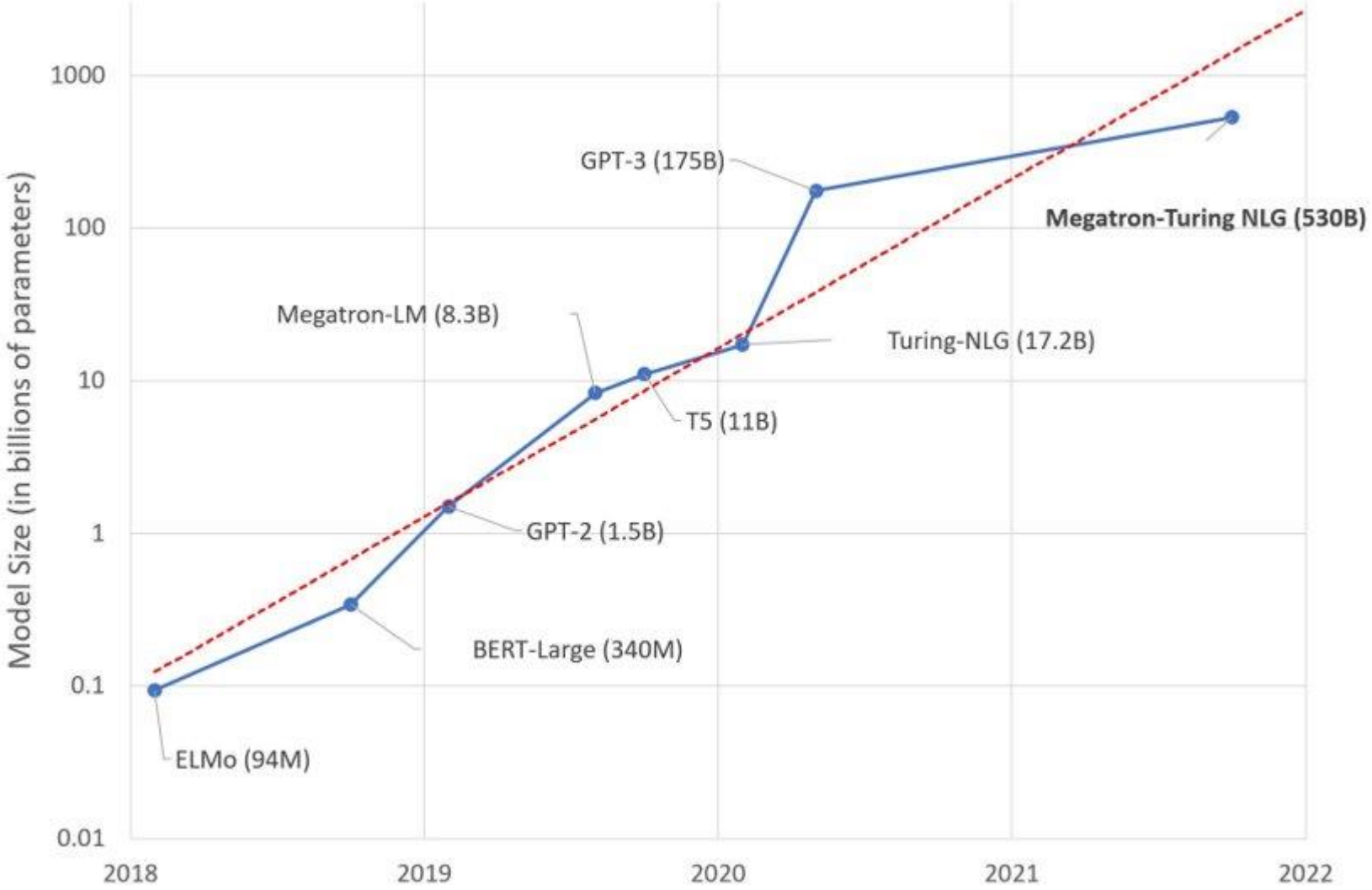
Responsible



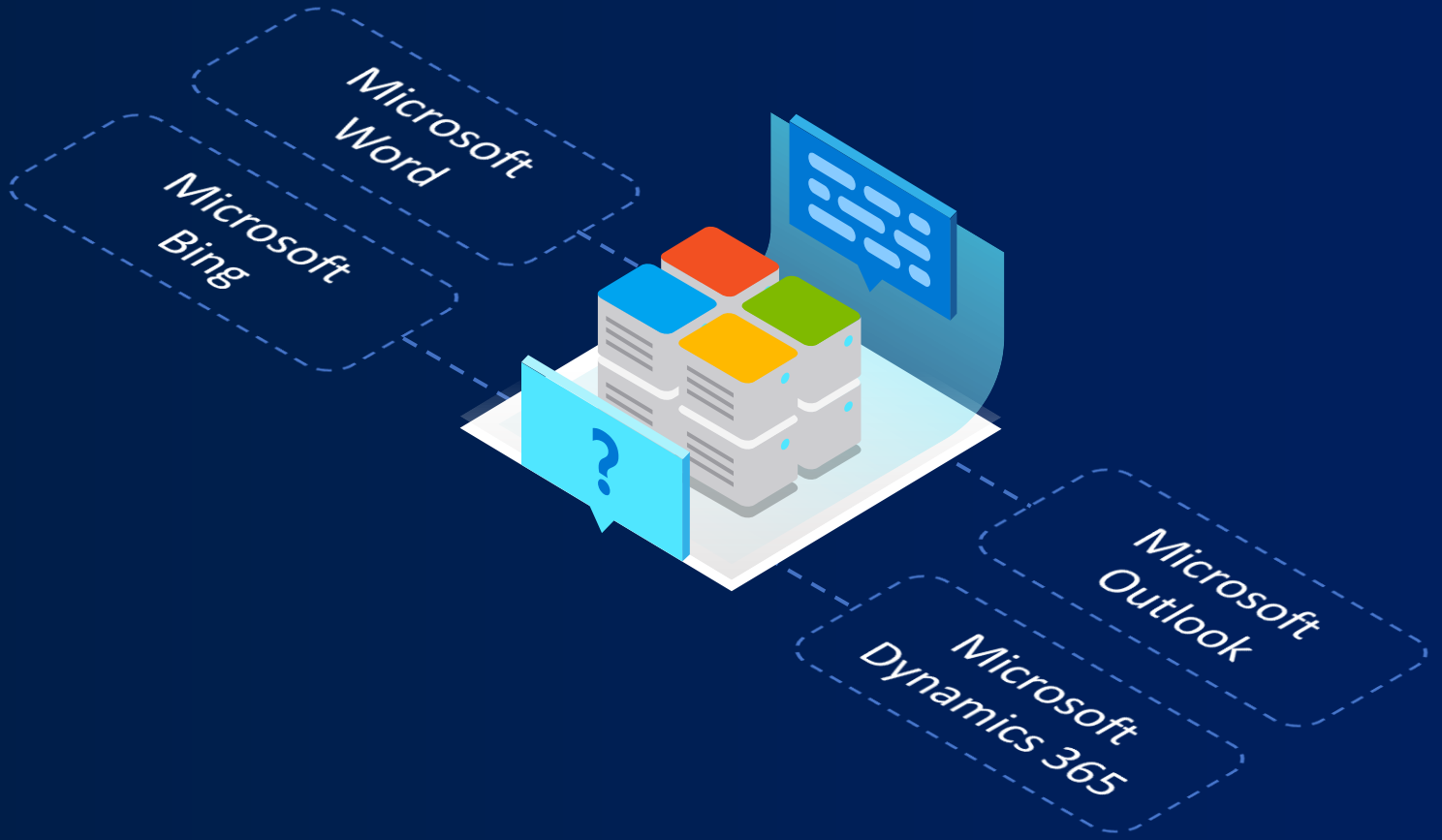
Artificial Intelligence

The evolution of massive AI models

Turing Model



How we use these models



How you can use these models, too

Convergence

From Language, to Image/Audio, to Multimodal

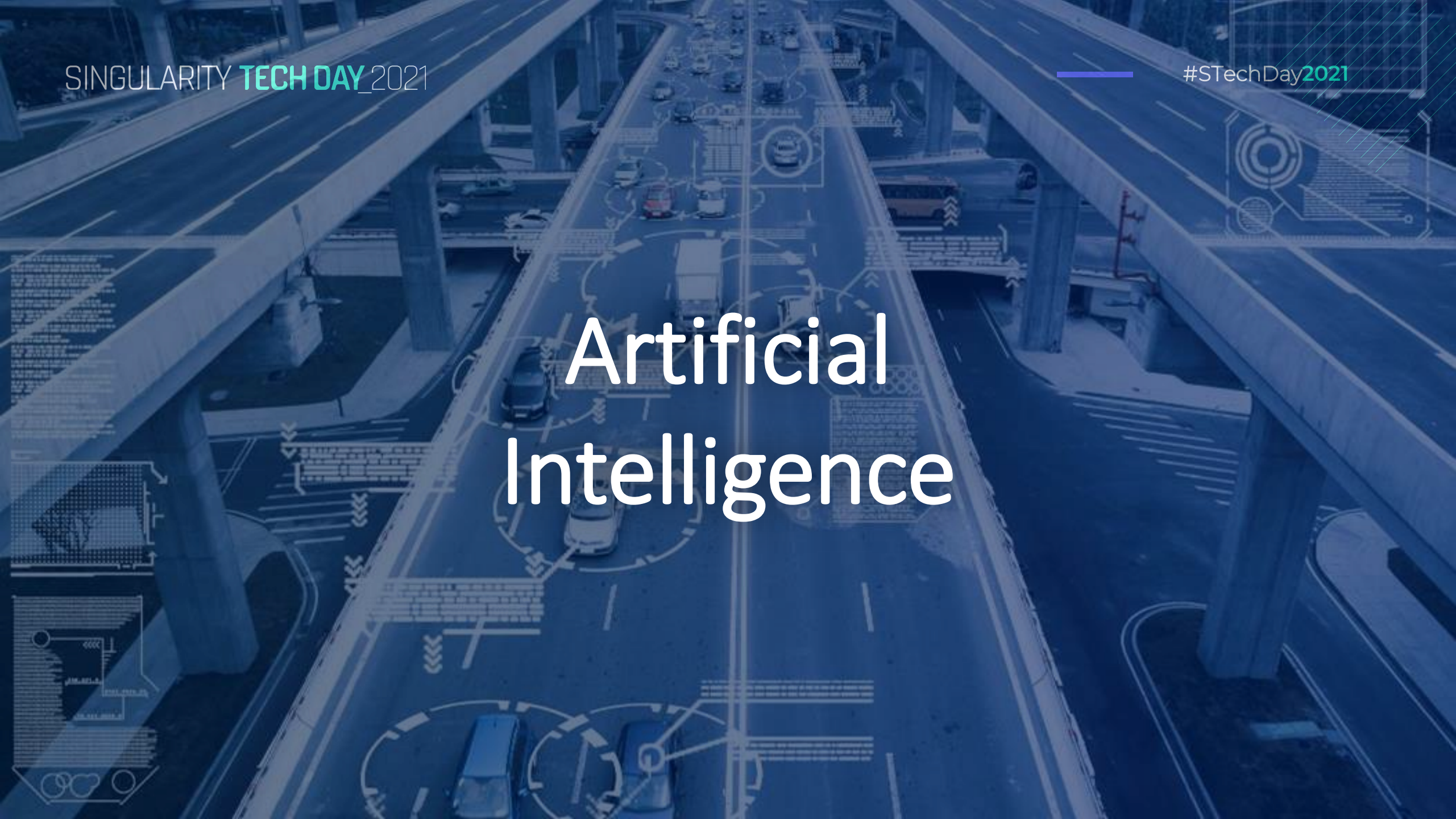
Modalities		Model	Tasks
Language +	Vision	Unicoder-VL (AAAI'20), M3P (CVPR'21), VLMo	Vision-Language tasks: caption, matching, …
	Video	UniVL, CLIP4Clip, GODIVA/NUWA	Video-Language tasks: caption, matching, …
	Code	CodeBERT (EMNLP'20), GraphCodeBERT (ICLR'21)	Code search, generation, …
	Audio	UniSpeech (ICML'21)	Speech\ASR
	Layout	LayoutLM (KDD'20)	Document AI: key-value extraction, document VQA, …
	Layout + Image	LayoutLMv2 (ACL'21), LayoutXLM	
	Markup	MarkupLM	Document understanding: NER, MRC/QA, matching, …

VIDEO PLACEHOLDER

- Dan – Project PSI video placeholder

- Tech Minutes: Platform for Situated Intelligence (microsoft.com)

- From 0:08 to 4:46 - just after the CTA to the OSS repo of Project PSI) → Total runtime 4:38



Artificial Intelligence

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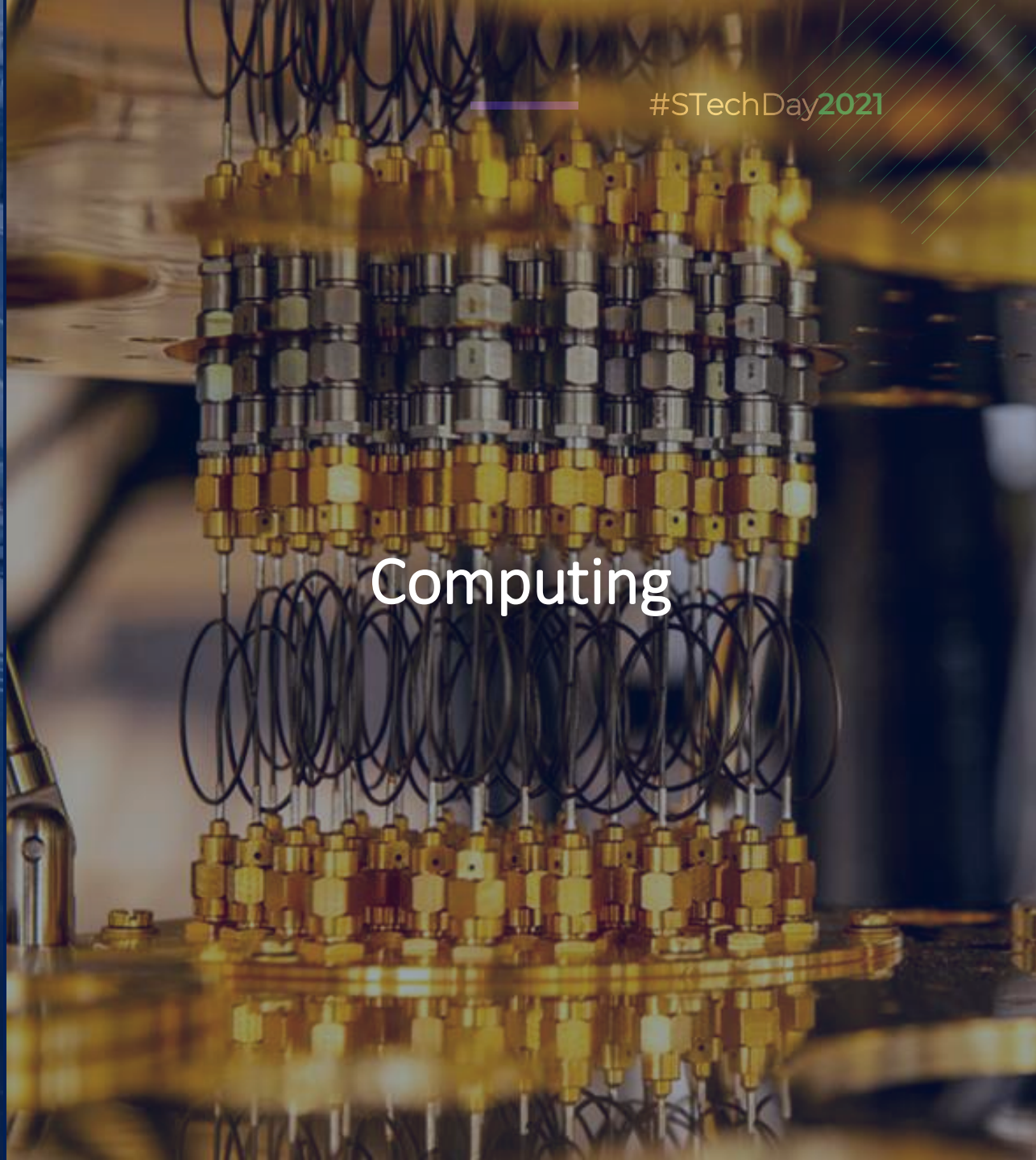
Artificial Intelligence

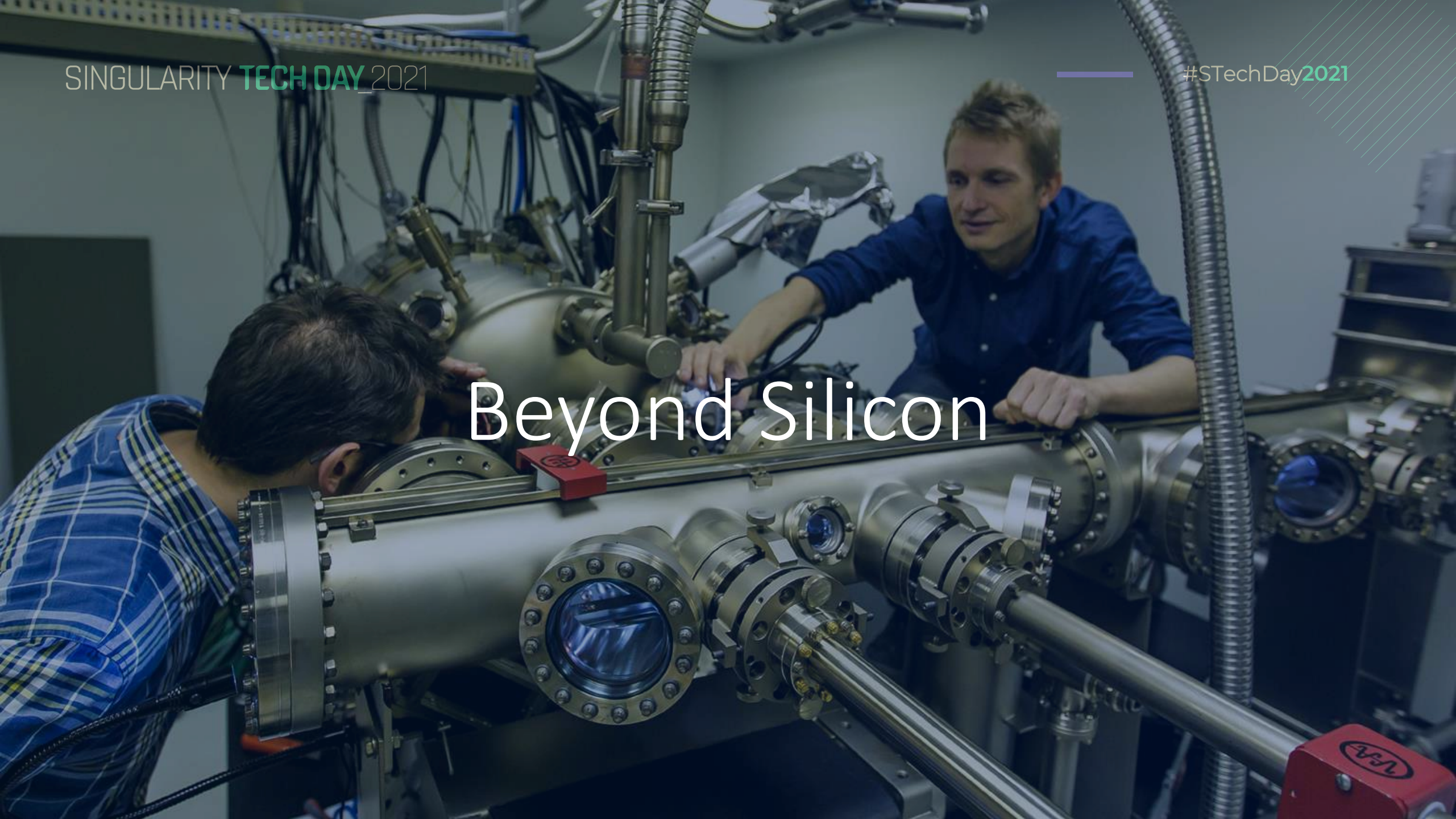


Computing

Sustainable

10
11
12
13

750W
750W
750W
750W



Beyond Silicon

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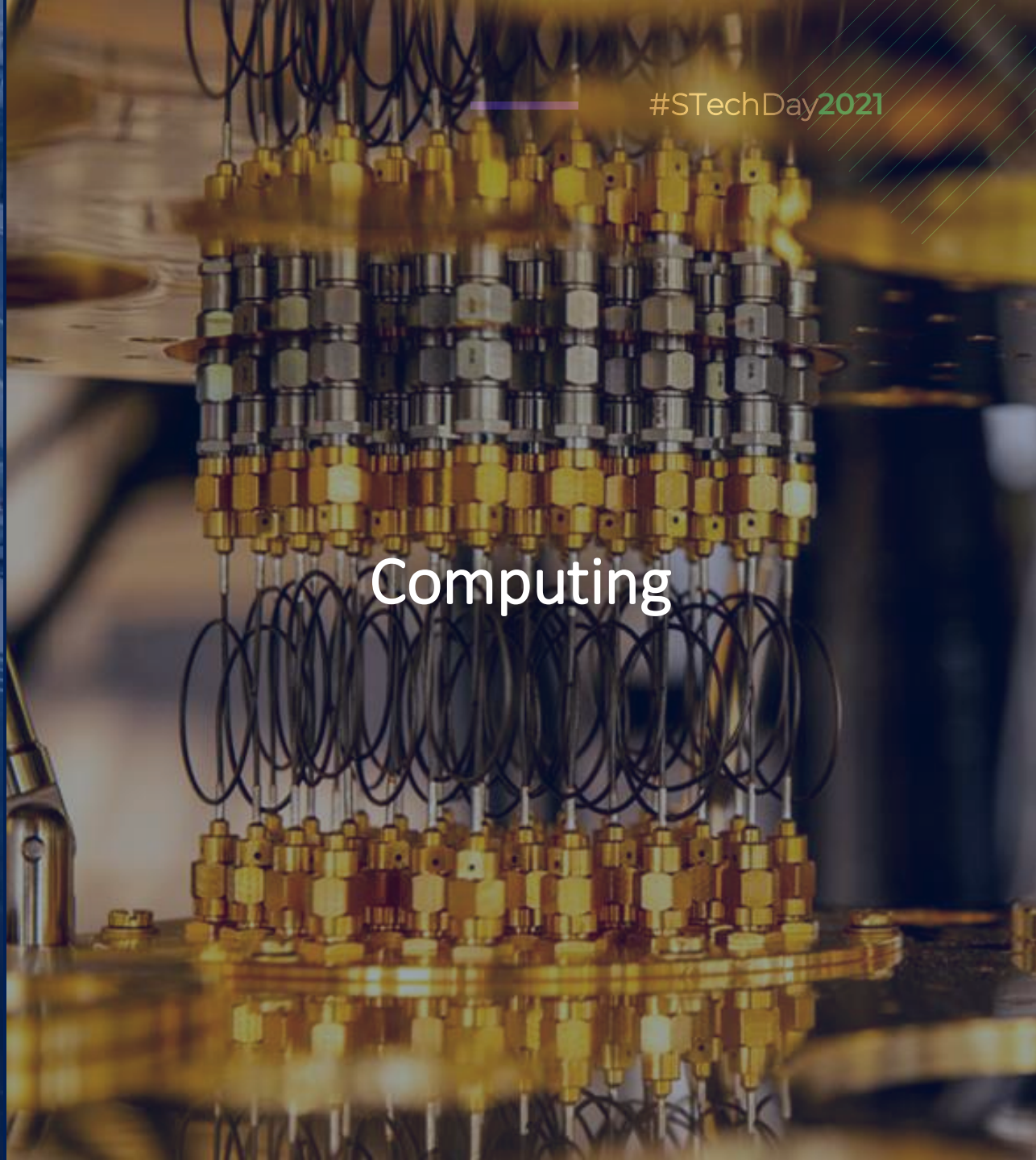
Artificial Intelligence



Computing

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Artificial Intelligence

Computing

Human-Machine Interaction

Natural user interfaces

Context-driven interactions

VIDEO PLACEHOLDER

- Katja – Project Paidia video placeholder
- Tech Minutes: Project Paidia - Microsoft Innovation
- From 0:15 to 4:43 → 4:28

Human connection

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Artificial Intelligence

Computing

Human-Machine Interaction

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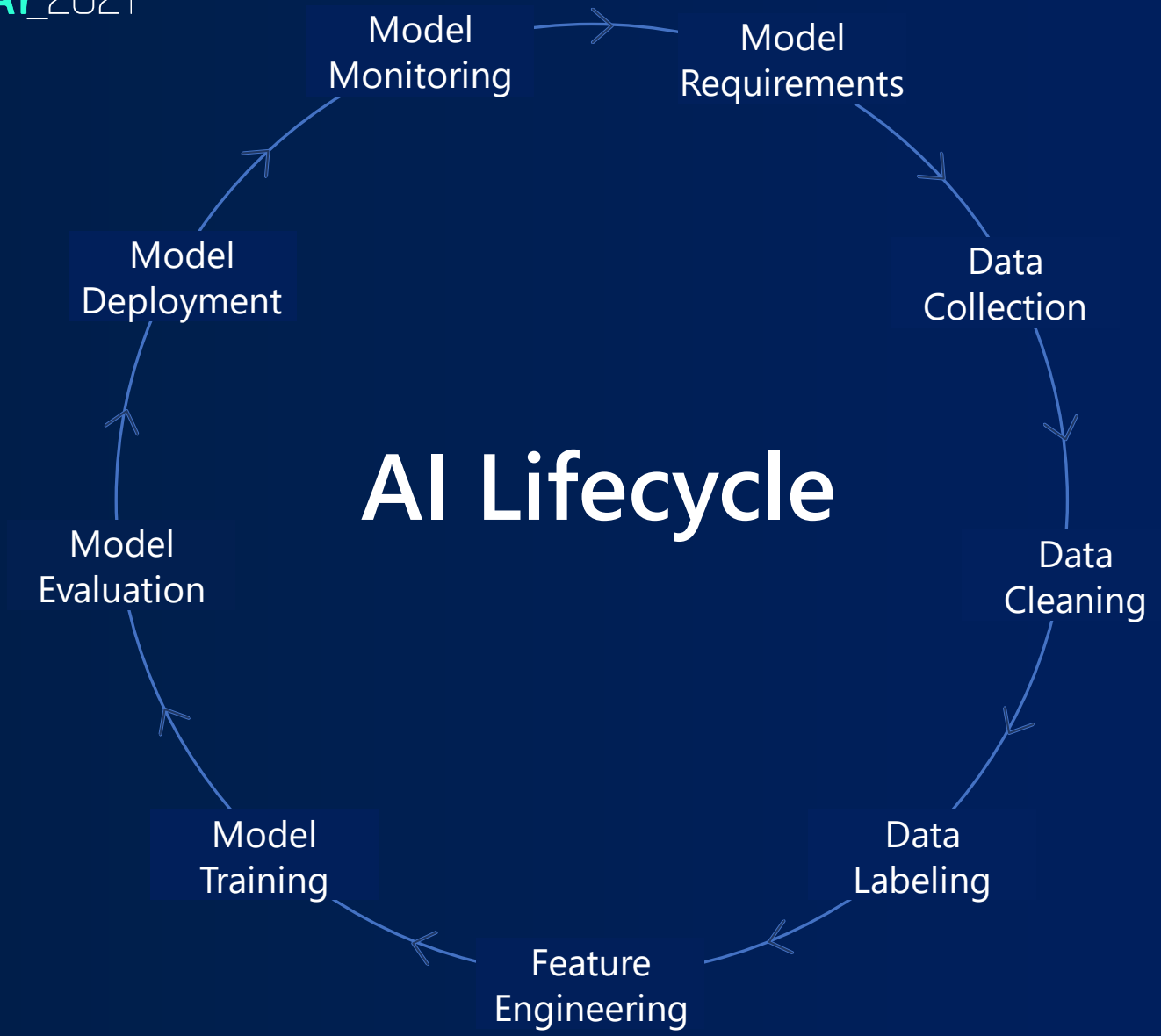
Artificial Intelligence

Computing

Human-Machine Interaction

Digital Responsibility


AI Lifecycle
Model Requirements
Data Collection
Data Cleaning
Data Labeling
Feature Engineering
Model Training
Model Evaluation
Model Deployment
Model Monitoring

Empowering AI developers

Identify > **Diagnose** > **Mitigate**

Empowering AI developers

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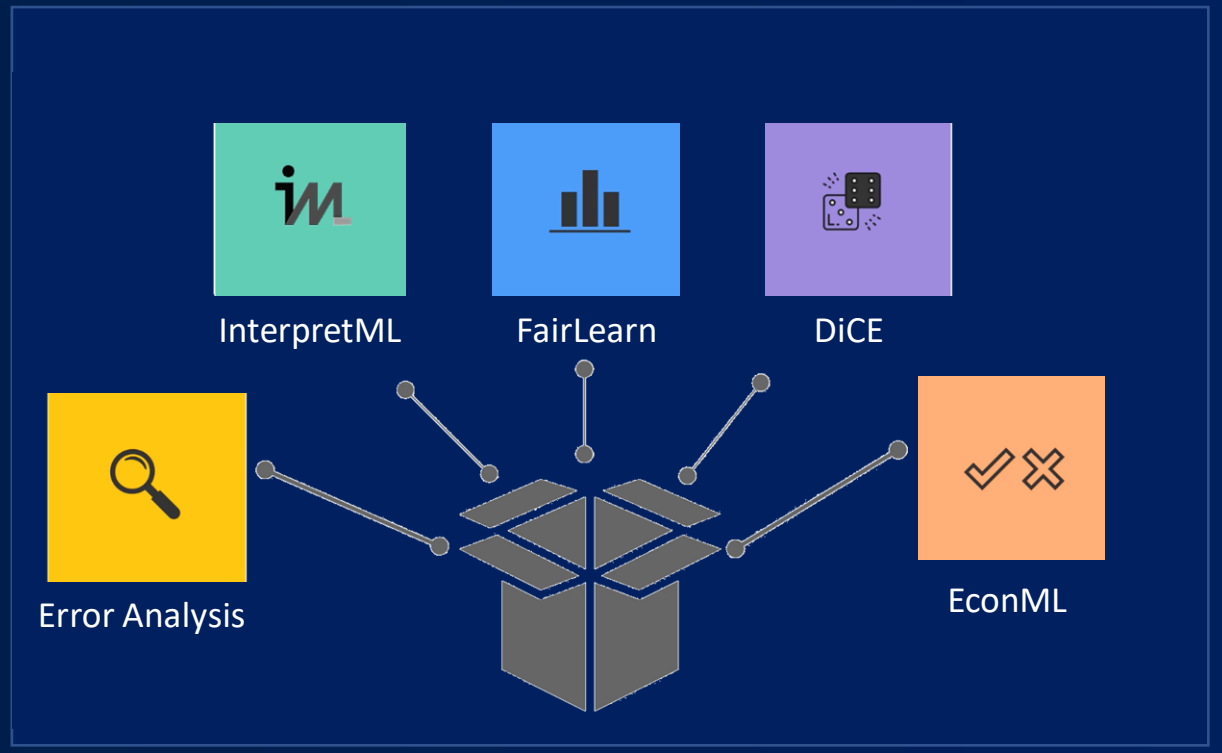
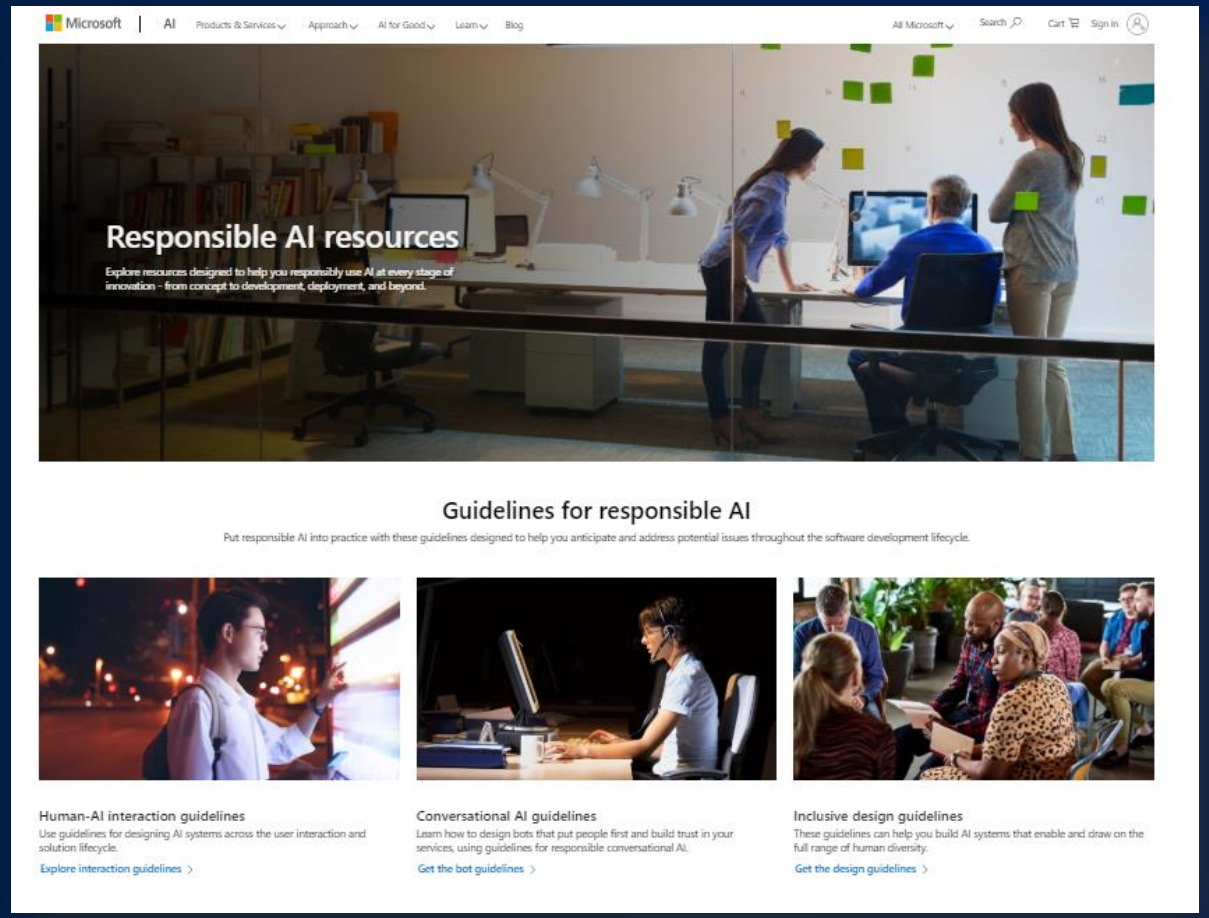


github.com/microsoft/responsible-ai-widgets

Responsible AI Resource Center



aka.ms/rairesources

“Dream of things that never were and ask *why not*?”
John F. Kennedy
Microsoft

Microsoft.com/innovation

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Thank you!

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