



# A View from the Summit (Part 1)

Jeff Bier  
Founder, Edge AI and Vision Alliance  
President, BDTI

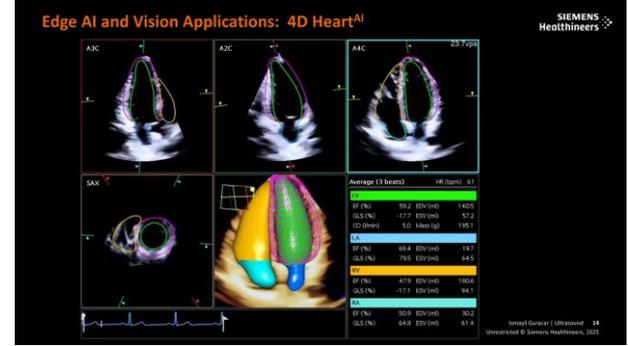
# Solving Real-World Problems



Subaru



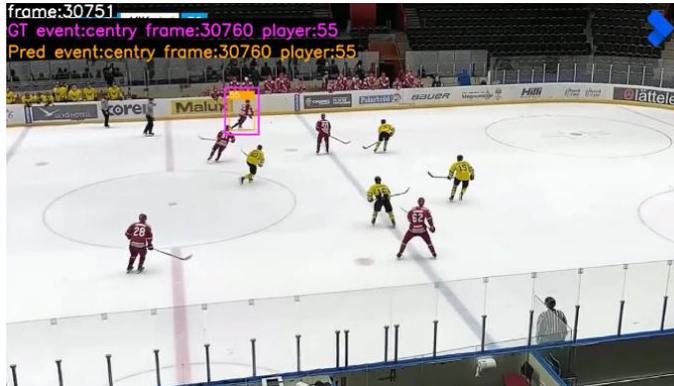
Xiong Chang, Tensorfield Agriculture



Ismayil Guracar, Siemens Healthineers



Wyze



Mehrzan Javan, Sportlogiq



Simbe Robotics

# Alliance Member Companies



# Inspire and Empower Product Creators

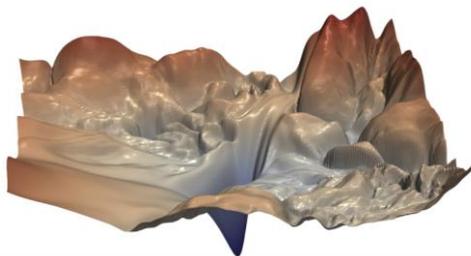


- Learn about new technologies, techniques and capabilities
- Build skills and know-how
- Connect with colleagues, suppliers, open source projects, standards and other resources

# For Product Creators



Navigating the Future: Addressing Challenges in AMR Design



Quantization of Convolutional Neural Networks: Quantization Analysis



Vision Language Model Prompt Guide for Image and Video Understanding

[www.edge-ai-vision.com](http://www.edge-ai-vision.com)

## MULTIMODAL PERCEPTION

### Frontiers in Perceptual AI: First-person Video and Multimodal Perception

First-person or "egocentric" perception requires understanding the video and multimodal data that streams from wearable cameras and other sensors. The egocentric view offers a special window into the camera wearer's attention, goals, and interactions with people and objects in the environment, making it an exciting avenue for both augmented reality and robot learning. The multimodal nature is particularly compelling, with opportunities to



# Helping Companies Grow



- Gain insights into trends in markets, technologies, applications and standards
- Connect with customers, suppliers and ecosystem partners
- Become visible as a thought leader



edge ai + vision ALLIANCE™

Inspiring + empowering innovators to design systems that **perceive + understand**

**See us at booth #617**

**Visit *membership*.edge-ai-vision.com**

# Edge Opportunities and Challenges

# The Diversity of Edge Applications



Amazon



Siemens Healthineers



Komatsu

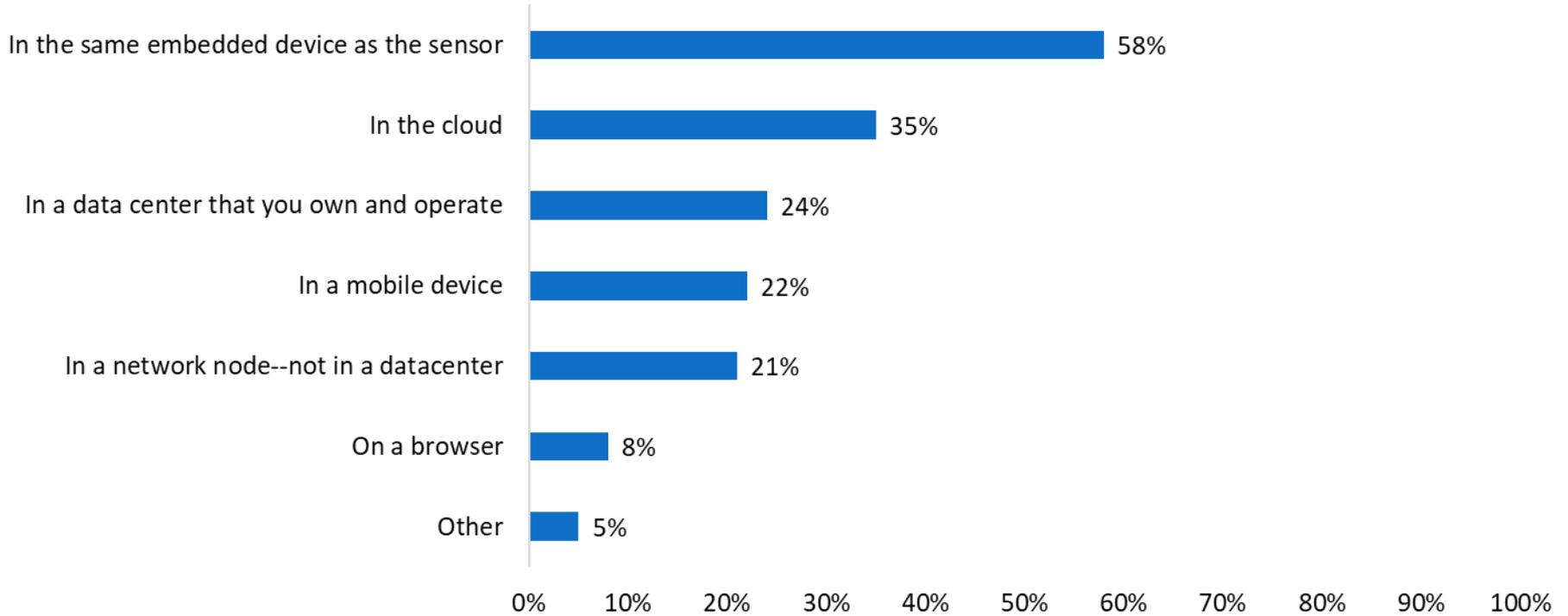


The Ambient



Axis

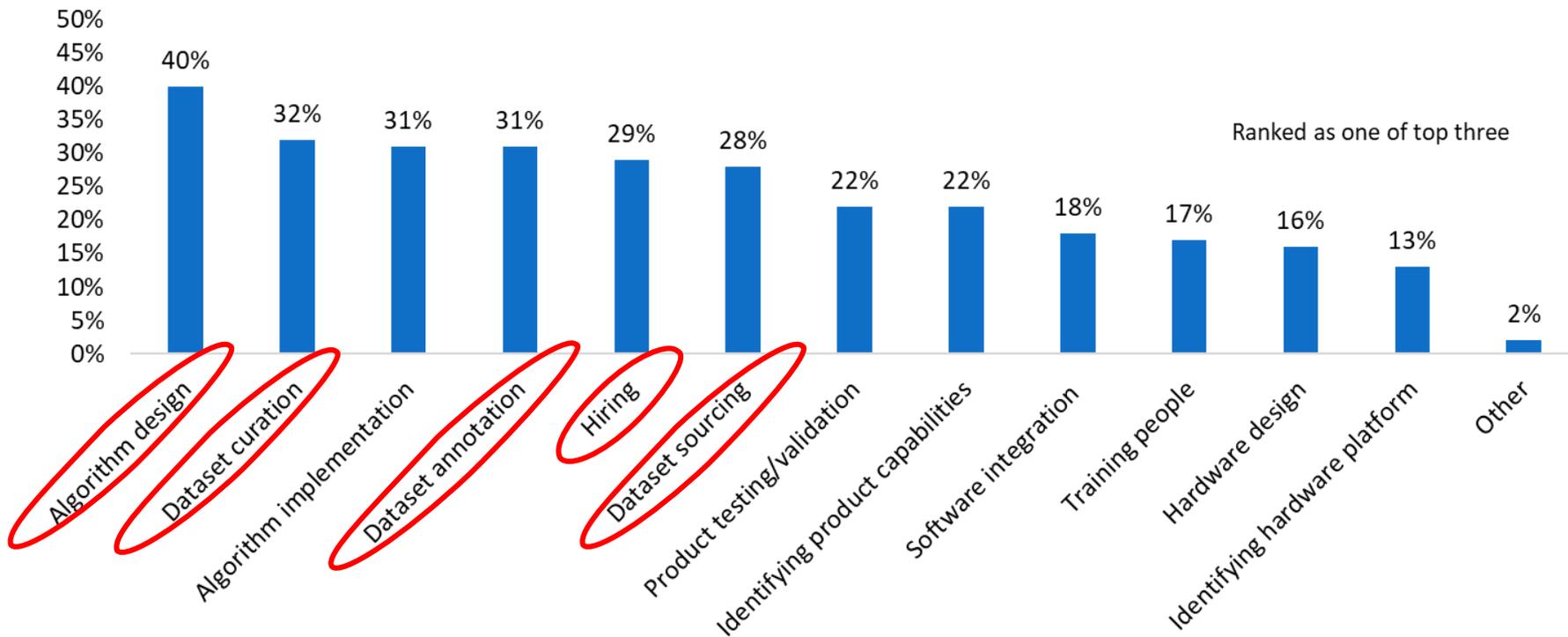
# Where Are Your Neural Networks Deployed?



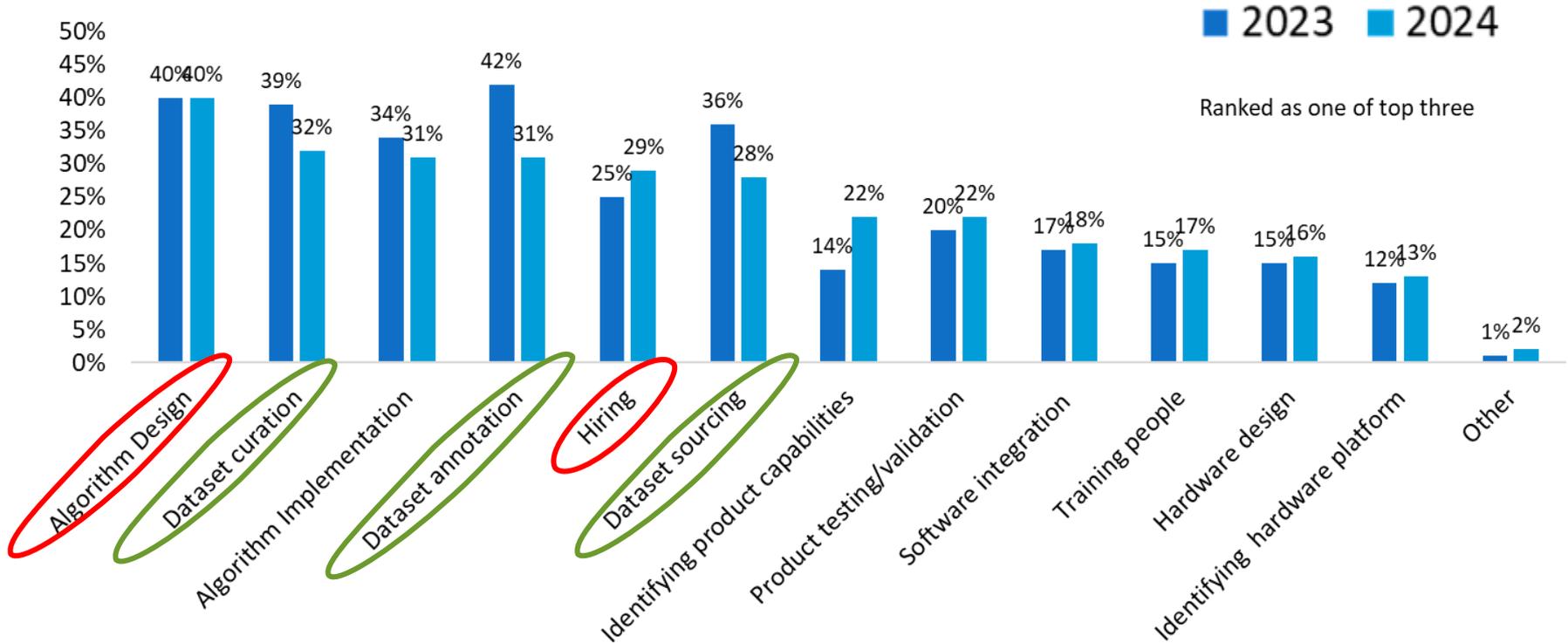
Source: Edge AI and Vision Alliance, *Computer Vision and Perceptual AI Developer Survey 2024*

# Why Are Vision Language Models a Game-Changer?

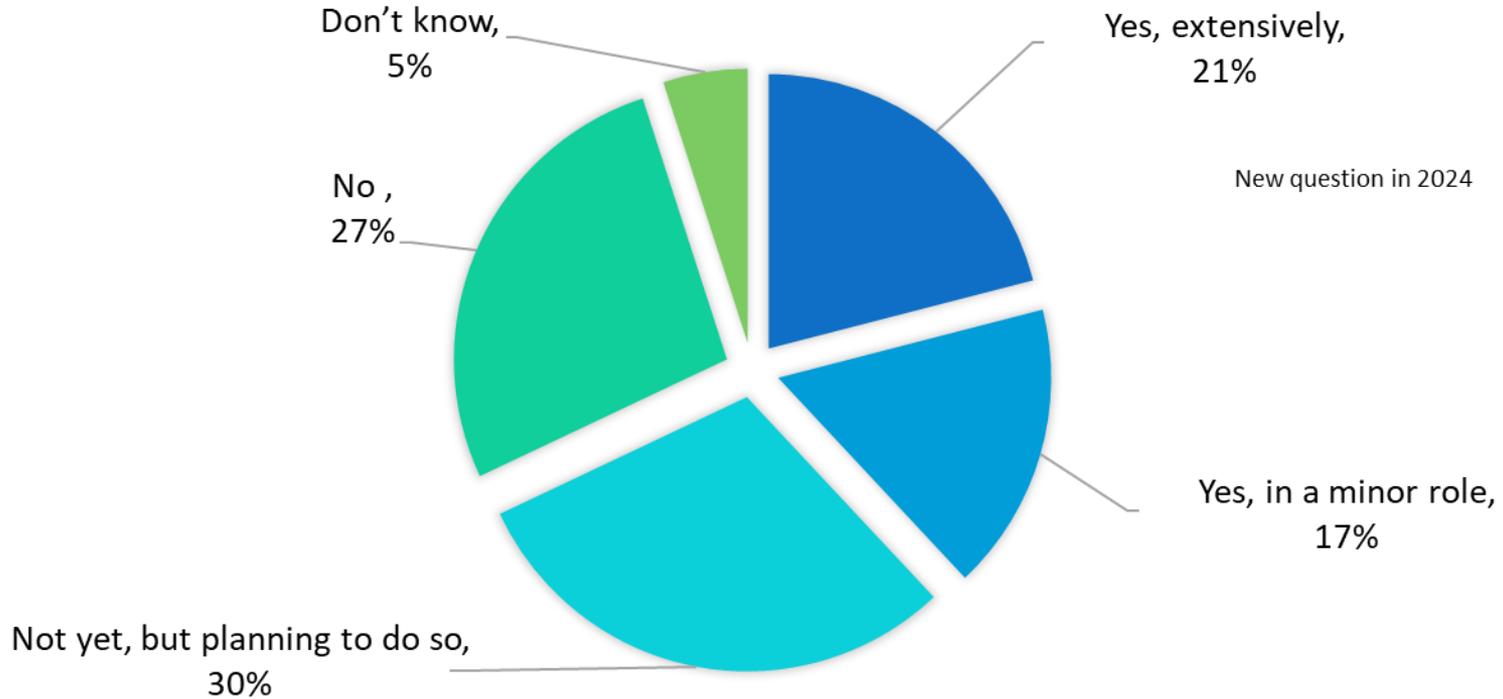
# Areas of Computer Vision/Perceptual AI Product Development Most Challenging



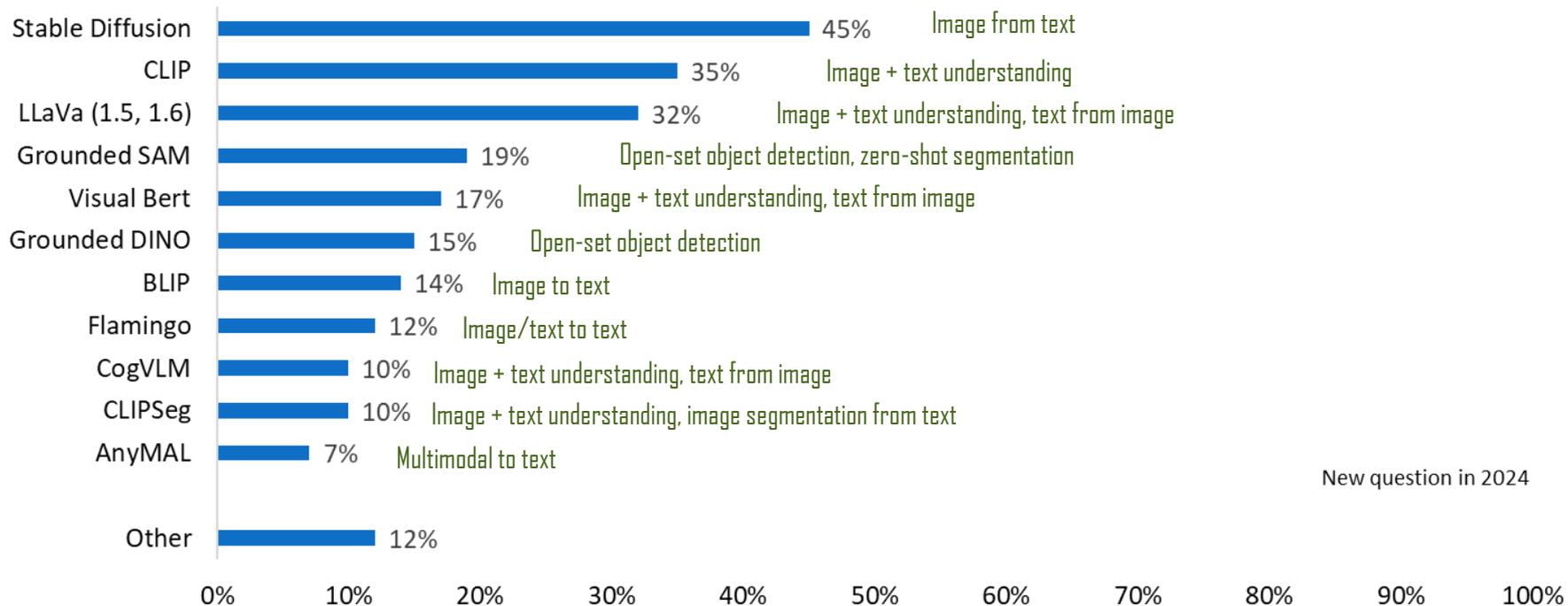
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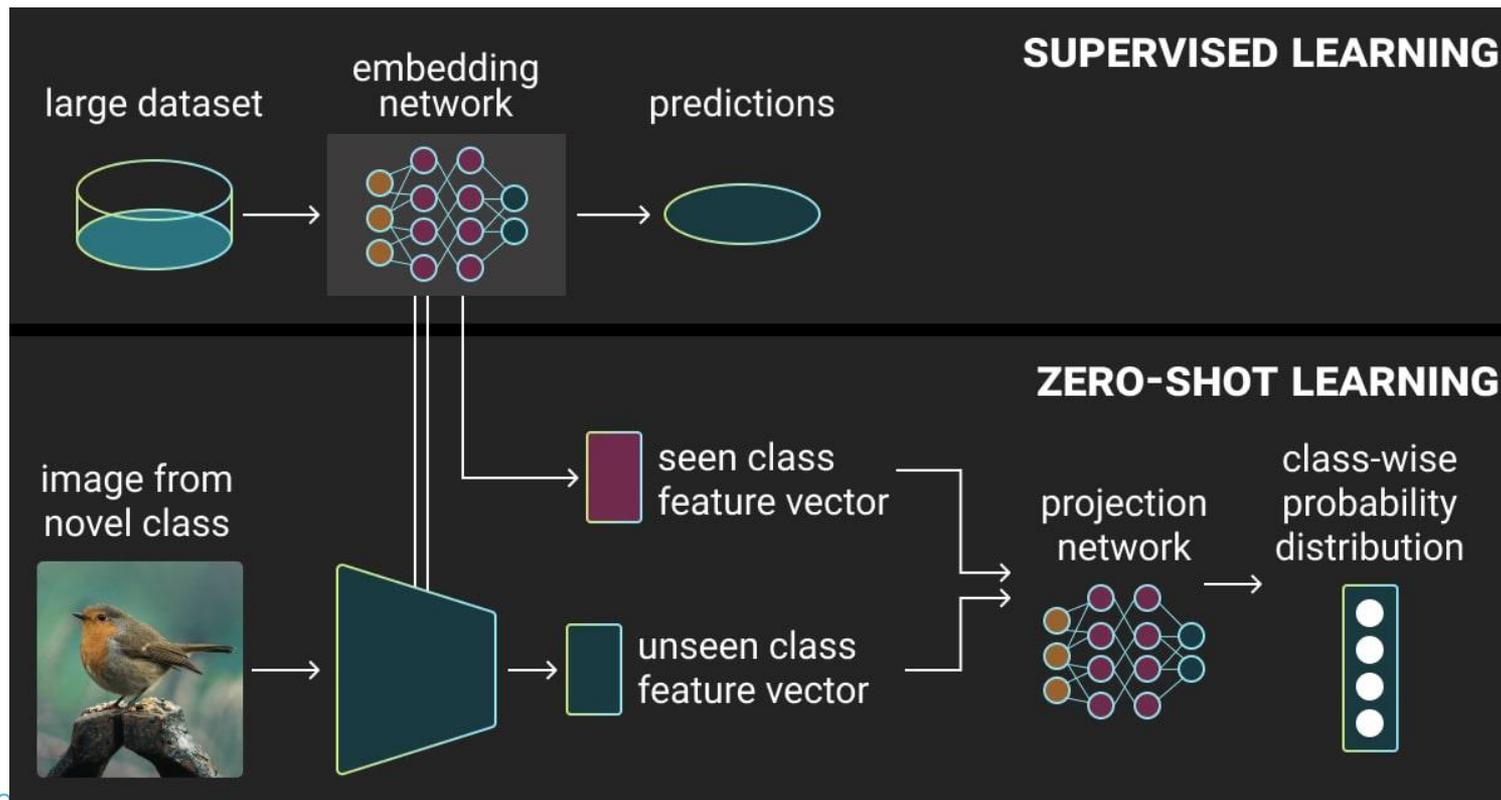
# Use of Vision-Language, Large Multimodal or Large Vision Models



# Vision-Language, Large Multi-Modal or Large Vision Models Used



# Zero-Shot Recognition



# From Seeing to Understanding

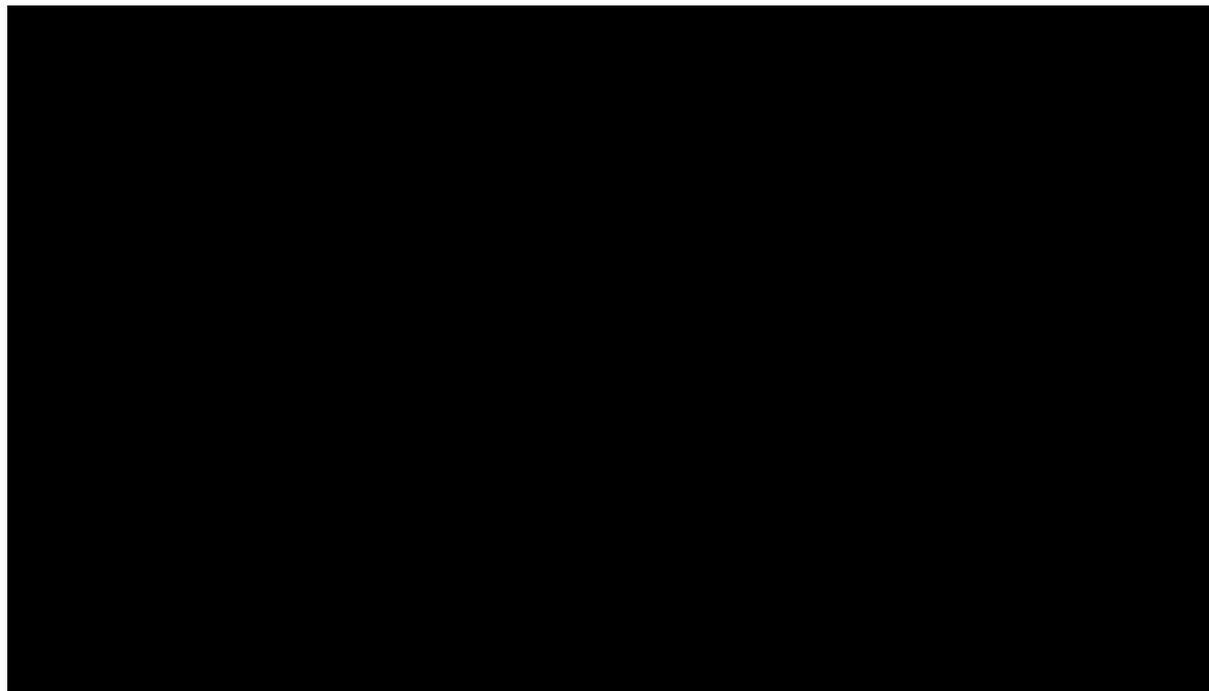
Based on the screenshots I've captured so far, I can make several observations about safety and potential improvements. Let me continue taking a few more screenshots to ensure we have a comprehensive view.

Tool Use: computer  
Input: {'action': 'screensho



<https://www.oneusefulthing.org/p/the-present-future-ais-impact-long>

# From Seeing to Understanding



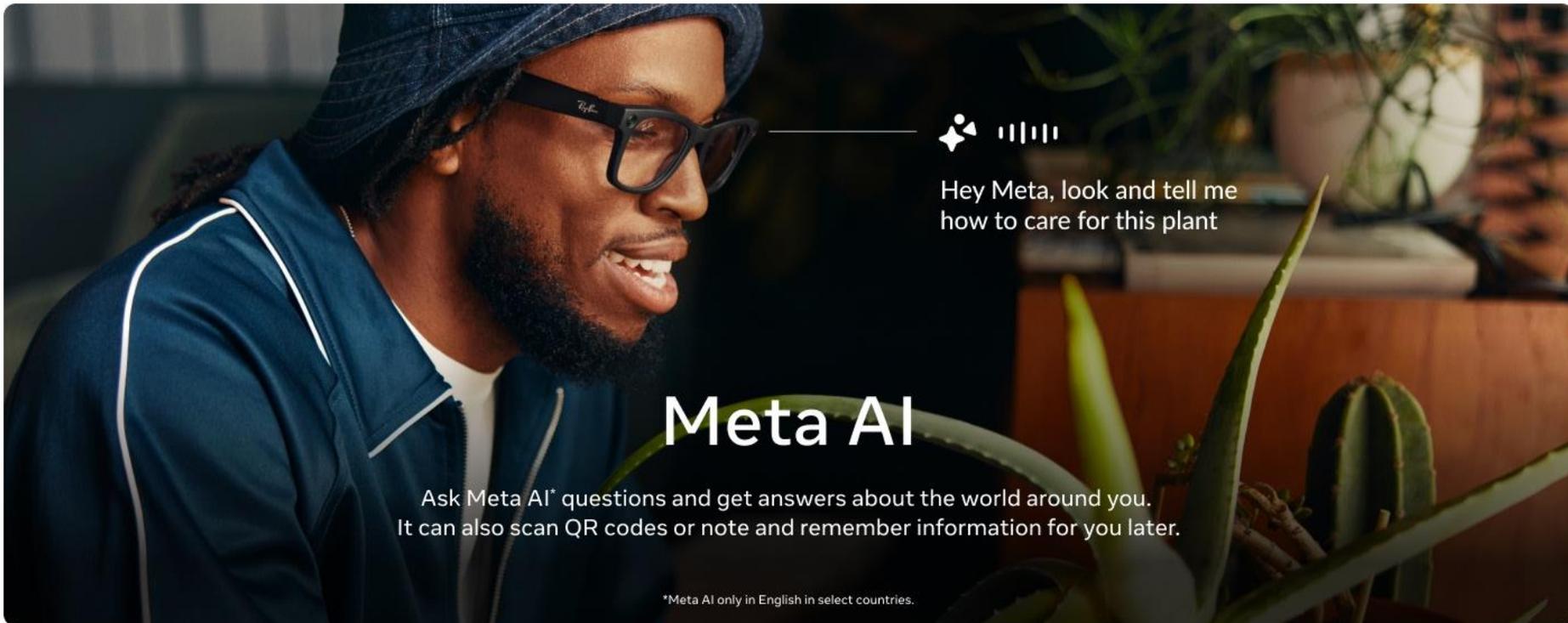
<https://www.oneusefulthing.org/p/the-present-future-ais-impact-long>



# From Seeing to Understanding

1	Finding	Action Required	Target Date	Status	Responsible Party	Notes
2						
3	Exposed rebar ends without caps	Install OSHA-compliant rebar caps on all exposed ends	Immediate	Open	Site Safety Supervisor	Critical safety issue
4	Trip hazards from scattered materials	Clear all walking paths and organize materials	Immediate	Open	Site Foreman	Focus on main access
5	Unmarked excavation edges	Install high-visibility barriers and warning signs	Immediate	Open	Site Safety Supervisor	Use both physical and visual
6	Vehicle-pedestrian interaction zones unclear	Mark clear vehicle paths and worker zones	Immediate	Open	Site Safety Supervisor	Include staging areas
7						
8	Open trenches without protection	Install trench protection systems per OSHA requirements	24 Hours	Open	Site Engineer	Verify soil classification
9	No visible concrete testing station	Set up dedicated testing area with proper equipment	24 Hours	Open	QC Manager	Include slump test
10	Missing elevation control points	Install survey points and elevation markers	24 Hours	Open	Site Engineer	Critical for proper layout
11	Inadequate PPE visibility	Implement full PPE requirements including high-visibility vests	24 Hours	Open	Safety Manager	Document compliance
12						
13	Inefficient material staging	Create dedicated material staging areas	48 Hours	Open	Site Superintendent	Label areas by material type
14	Poor tool organization	Set up mobile tool cribs near work areas	48 Hours	Open	Tool Room Manager	Include check-out system
15	No visible inspection points	Install inspection station with documentation	48 Hours	Open	QC Manager	Include weather-protected area
16	Unclear pour sequence	Mark and document pour sequence on forms	48 Hours	Open	Concrete Foreman	Use color coding for clarity
17						
18	No designated break areas	Set up proper rest/water stations	72 Hours	Open	Site Superintendent	Include shade structures
19	Limited visual management	Install daily task boards and progress markers	72 Hours	Open	Project Engineer	Include weather-protected areas
20	No clear QA checkpoints	Establish QA stations with verification points	72 Hours	Open	QA Manager	Document all inspection points
21	Limited knowledge transfer opportunities	Create designated training zones	72 Hours	Open	Training Coordinator	Include visual aids and demonstrations
22						
23	Dust control measures inadequate	Implement comprehensive dust control plan	1 Week	Open	Environmental Manager	Include water truck and misting
24	Poor material flow patterns	Optimize material and equipment flow paths	1 Week	Open	Logistics Manager	Map out complete material flow
25	Insufficient progress tracking	Install progress tracking system	1 Week	Open	Project Engineer	Include photo documentation
26	No visible best practice sharing	Create best practice documentation system	1 Week	Open	Quality Manager	Include worker input and feedback
27						
28	Informal work processes	Develop standard work procedures	2 Weeks	Open	Operations Manager	Document tribal knowledge
29	Limited visual planning tools	Install visual management system	2 Weeks	Open	Project Manager	Include 3-week lookahead
30	Suboptimal crew movements	Optimize crew deployment patterns	2 Weeks	Open	General Superintendent	Map movement patterns
31	Limited weather protection planning	Develop weather contingency plans	2 Weeks	Open	Project Engineer	Include material protection
32						

# Language Interaction with the Visual World



Hey Meta, look and tell me how to care for this plant

## Meta AI

Ask Meta AI\* questions and get answers about the world around you. It can also scan QR codes or note and remember information for you later.

\*Meta AI only in English in select countries.

# Camio's Industrial Compliance Solution

## Relevant Text

Every forklift operator must be wearing a white hard hat.

Every forklift must have its lights turned on when moving.

Cranberry crates must not be stacked more than 2 crates high.

## Recommended Message

### Assessment

The forklift operator is wearing a white hard hat.

The forklift is moving and its lights are on.

The crates are stacked 2 crates high.



# How We Instruct Computers to Perceive

Easier for Humans

More Compute Required

Devise Heuristic Algorithms Using Engineered Features

Number of Unique Programs/Models Required

# How We Instruct Computers to Perceive

Easier for Humans

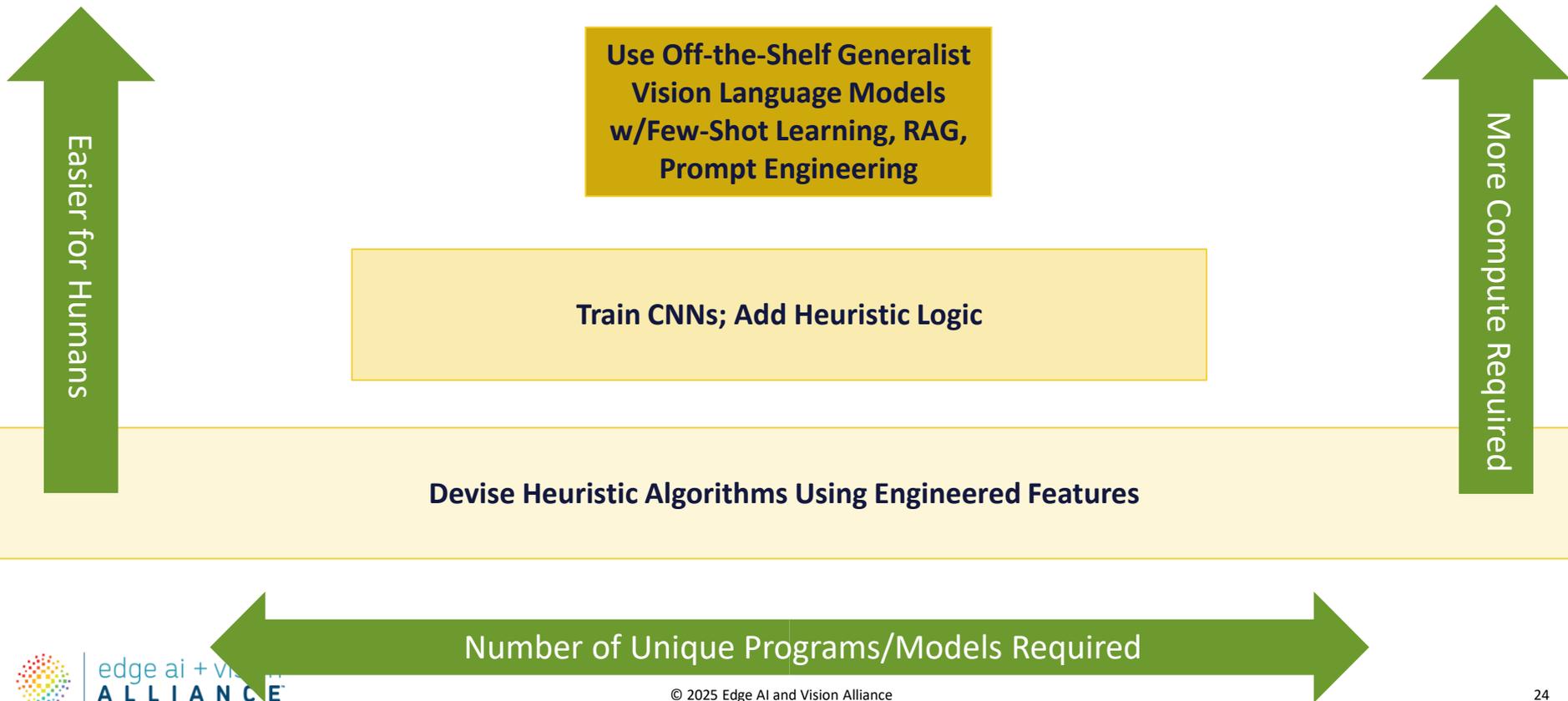
Train CNNs; Add Heuristic Logic

More Compute Required

Devise Heuristic Algorithms Using Engineered Features

Number of Unique Programs/Models Required

# How We Instruct Computers to Perceive



The background features a row of five clear glass trophies on a dark surface. Each trophy has a rectangular base and a tall, thin, angled column. The trophies are slightly out of focus. The text 'AI INNOVATION AWARDS™ 2025' is centered over the trophies. The word 'AI' is large and dark blue. 'INNOVATION' is in a smaller, dark blue font, with a colorful pixelated starburst graphic replacing the letter 'O'. 'AWARDS™ 2025' is in a smaller, dark blue font. The overall background is a light blue gradient with a large, semi-transparent blue triangle on the left side.

# AI INNOVATION AWARDS™ 2025

# Thank You to Our Judging Panel!



Shung Chieh  
SVP Eikon Systems  
Eikon Therapeutics



Torsten Fink  
Sr. Director, New Business Creation  
Dolby Laboratories, Inc.



Nathan Kopp  
Chief System Architect  
Chamberlain Group



Toly Kotlarsky  
Distinguished MTS, R&D  
Zebra Technologies Corp.



Pavan Kumar  
Senior Product Manager  
Google Labs



Jason Lavene  
Technical Director  
Keurig Dr Pepper



Vaibhav Ghadiok  
Co-founder and CTO  
Hayden AI



Nik Gagvani, Ph.D.  
Founder and President  
CheckVideo

# 2025 AI Innovation Award—Robotics



**AI**  
**INN+VATION**  
AWARDS™ 2025

**WINNER**

**AGILITY**  
ROBOTICS

Presented by  
edge ai + vision  
ALLIANCE™

**Digit Humanoid Robot**  
Category: Robotics



# 2025 AI Innovation Award—Vision Language Models

## Applications of Vision Language Models





**AI INNOVATION AWARDS™ 2025**

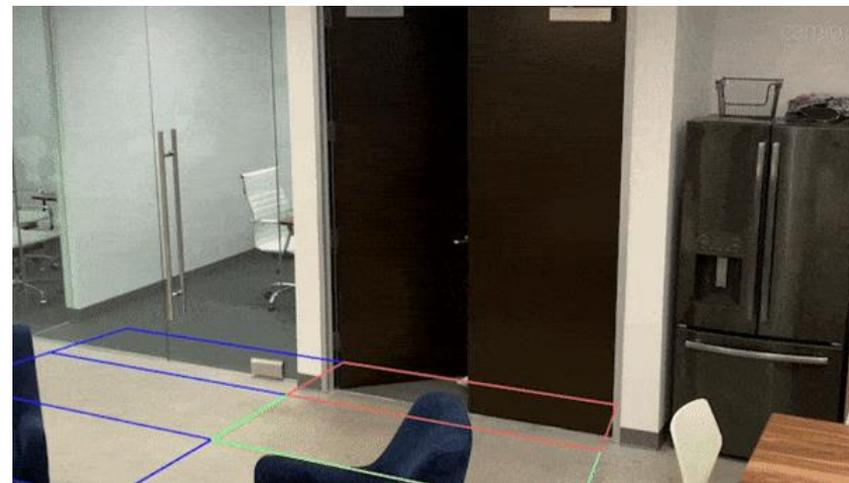
**WINNER**

**camio**

**Camio Visual Agents**

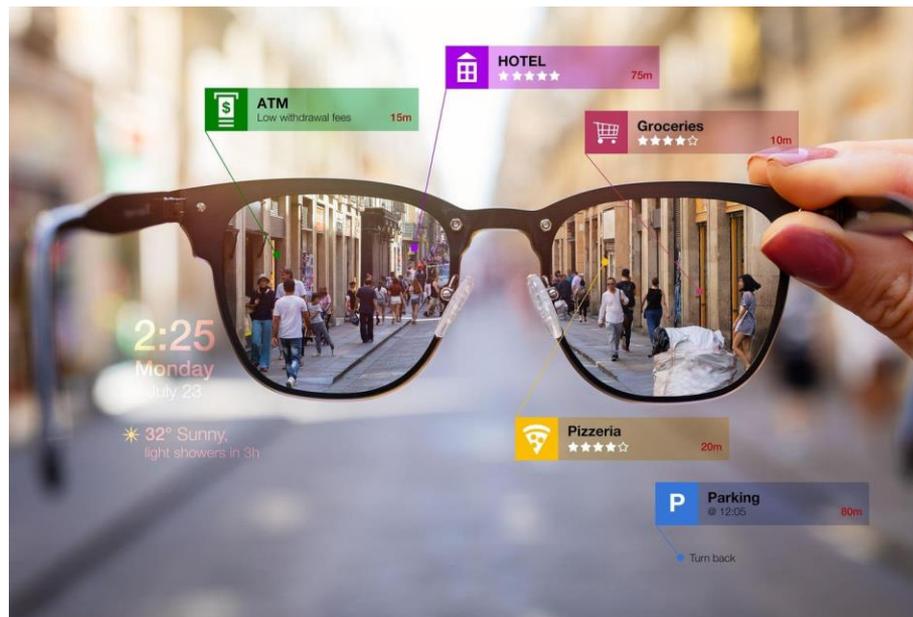
Category: Vision Language Models

Presented by **edge ai + vision ALLIANCE™**



Detect tailgating automatically and notify those involved

# 2025 AI Innovation Award—Mobile



**AI**  
**INNOVATION**  
AWARDS™ 2025

**WINNER**

Ray-Ban | ∞ Meta

**Ray-Ban  
Meta glasses**

Category: Mobile

Presented by  
edge ai + vision  
ALLIANCE™



# 2025 AI Innovation Award—Agriculture





**AI  
INNOVATION  
AWARDS™ 2025**

**WINNER**



**PerPlant**  
**PerPlant Insight Sensor**  
Category: Agriculture

Presented by  edge ai + vision  
ALLIANCE™





# Making the Most of Your Day

# Wednesday Schedule

9:00 am -  
11:10 am

**INTRODUCTION and KEYNOTE**

11:10 am - 11:25 am **Break**

11:25 am -  
12:30 pm

**Technical  
Insights 1**

**Technical  
Insights 2**

**Fundamentals**

**Business  
Insights**

1:30 pm -  
3:10 pm

12:30 pm - 1:30 pm **Lunch - Exhibit Hall**

12:30 pm -  
7:30 pm  
**Technology  
Exhibits**  
Exhibit Hall



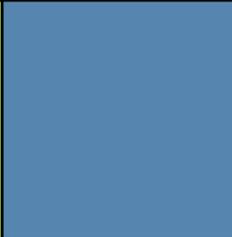
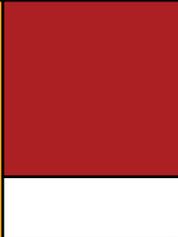
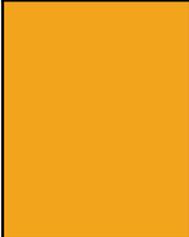
**Enabling  
Technologies 1**

**Enabling  
Technologies 2**

**Enabling  
Technologies 3**

3:10 pm - 4:15 pm **Break**

4:15 pm -  
5:55 pm



6:00 pm -  
7:30 pm

**6:00 pm - 7:30 pm Technology Exhibits**  
**Reception: Exhibit Hall**

**6:30 pm - 7:30 pm Women in Vision**  
**Reception: Exhibit Hall ET-3**

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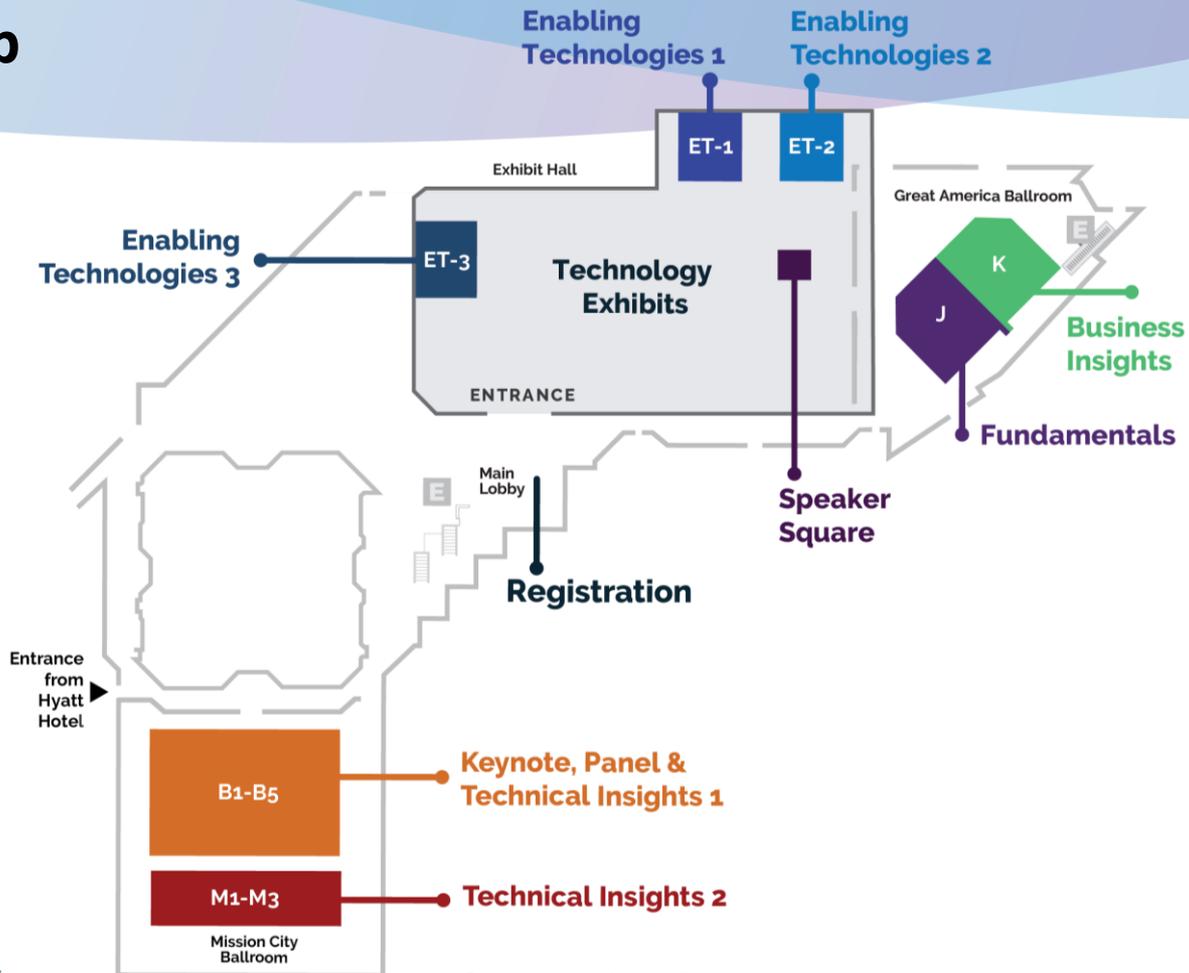
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Reception: Exhibit Hall

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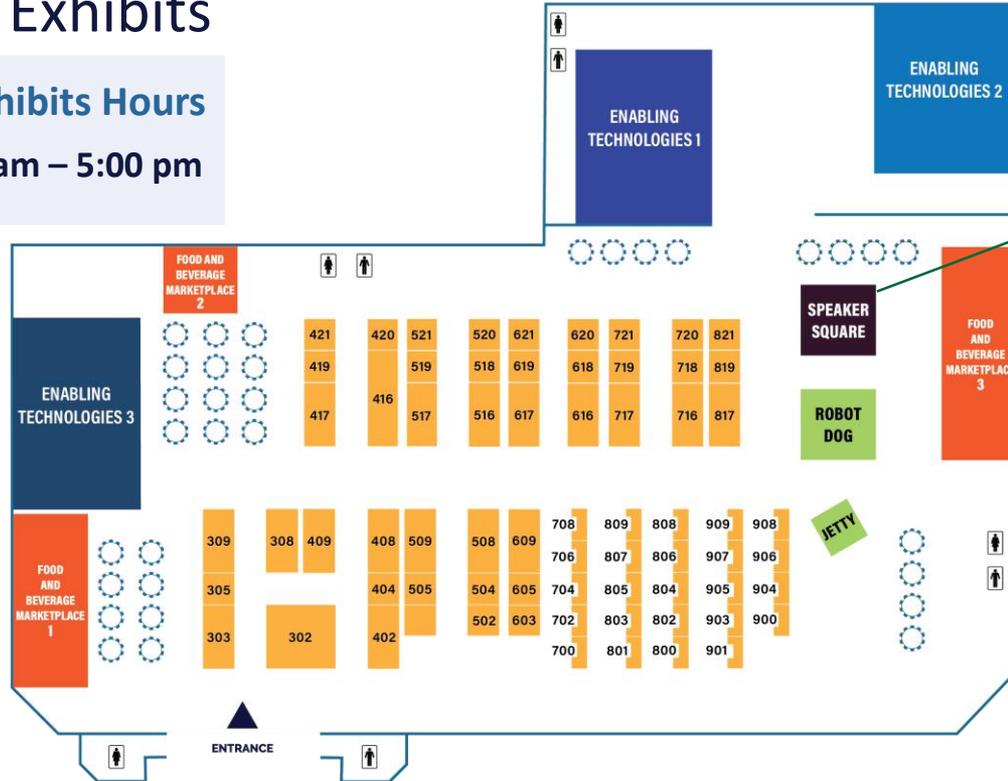
# Facility Map



# Facility Map

## Technology Exhibits

Technology Exhibits Hours  
Thursday 11:00 am – 5:00 pm



Speaker Square

# Wednesday Speaker Office Hours (in the Speaker Square)



**1:30 pm – 2:15 pm Rareş Ambruş**  
(Toyota Research Institute)  
Monocular depth estimation



**2:30 pm – 3:15 pm Satya Mallick**  
(OpenCV.org)  
OpenCV



**5:00 pm – 5:45 pm Frank Moesle**  
(Valeo)  
ADAS



**5:00 pm – 5:45 pm Chris Padwick**  
(Blue River Technology)  
Robotics; scaling



**6:00 pm – 6:45 pm Mumtaz Vauhkonen**  
(Skyworks Solutions)  
Multimodal models



**5:00 pm – 5:45 pm Mark Jamtgaard**  
(RetailNext)  
Building custom cameras; scaling



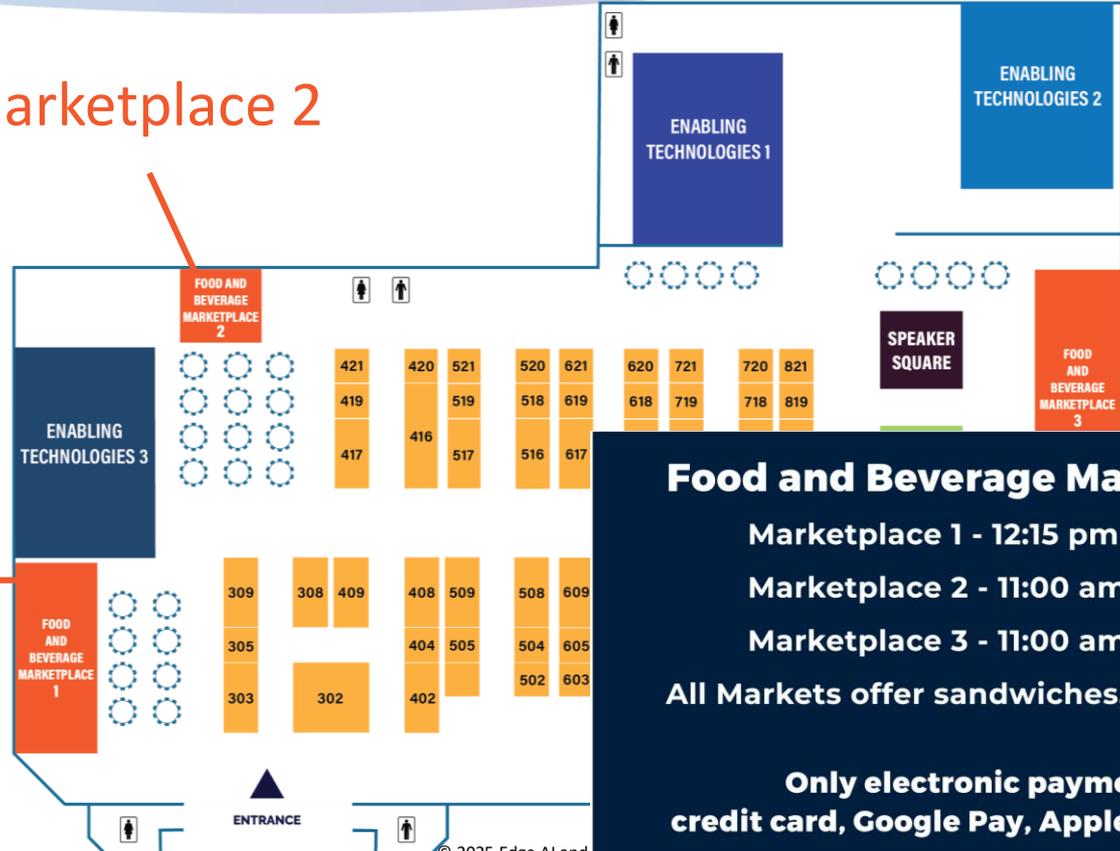
**6:00 pm – 6:45 pm Rakshit Agrawal**  
(Synthpop AI)  
Transformers; model-to-product

# Enjoy Food and Refreshments Visit the Food Markets in the Exhibit Hall

Marketplace 2

Marketplace 3

Marketplace 1



## Food and Beverage Marketplace Hours

Marketplace 1 - 12:15 pm to 4:15 pm

Marketplace 2 - 11:00 am to 3:00 pm

Marketplace 3 - 11:00 am to 3:00 pm

All Markets offer sandwiches, salads and hot food.

**Only electronic payment accepted—  
credit card, Google Pay, Apple Pay or Samsung Pay**

# Download the Summit App



1. Scan the QR code and install the Attendee Mobile app
2. Allow Attendee Mobile to send you notifications
3. Then search for “Vision”

QR code not working?  
**Visit [embvis.com/app](https://embvis.com/app)**

**Questions? Stop by Registration for help!**

# Check Out the Exhibits!

 THREE LINES OF CODE	 AIRY3D	 ALIF SEMICONDUCTOR	 ANDES	 avassa	 BDTi	 BLUEDOT	 brainchip.*	 cādence®	 Chips Media™	 Commonlands Optics for Cameras
 D3 Embedded	 Deeper-I	 edge ai + vision ALLIANCE™	 eInfochips An Arrow Company	 ENERZAI	 expedera	 EyePop.ai	 XRP experimental robotics platform	 FotoNation	 gimlet	 IMAGE QUALITY LABS see the difference
 Imagination	 intel REALSENSE	 INUITIVE	 IRIDA LABS	 KRONOS GROUP	 LATTICE SEMICONDUCTOR	 LEOPARD IMAGING	 MACNICA	 memryX	 MENTIUM TECHNOLOGIES	 MICROCHIP
 micron.	 mobilint	 NAMUGA VISION CONNECTIVITY	 Network Optix	 nextchip	 Nota AI	 ONLOGIC	 OpenCV	 openMV	 optopax	 PLAINSIGHT
 Quadric	 Qualcomm	 Qualitas SEMICONDUCTOR	 RENASAS	 SENSING	 SiMa.ai	 SONY	 SqueezeBits	 SQUINT AI	 StereoLabs*	 STMicroelectronics
 Sunex Excellence in Digital Imaging Optics	 SYMAGE by Onset Software	 SYNETIC	 SYNOPSYS™	 the SHDgroup	 tryo·labs	 USEFUL SENSORS	 VeriSilicon	 vision components®	 VISIONARY.AI	 WebOccult TECHNOLOGIES
 winbond	 YAZAKI									

[embeddedvisionsummit.com/sponsor-exhibitor-directory](https://embeddedvisionsummit.com/sponsor-exhibitor-directory)

2025  
**WOMEN IN**  
**VISION**  
RECEPTION

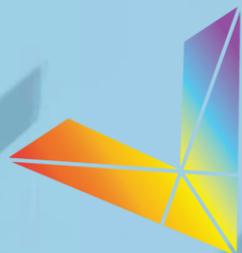
WEDNESDAY, MAY 21  
6:30 PM – 7:30 PM | EXHIBIT HALL ET-3



## Please fill out your Embedded Vision Summit survey!

Completed surveys will be entered into a drawing for one of three  
\$100 Amazon gift cards.





2025

# EDGE AI AND VISION **PRODUCT** OF THE **YEAR**



edge ai + vision  
**ALLIANCE**

**WINNER**

**BEST EDGE AI  
PROCESSOR**



**2025**

**EDGE AI AND VISION  
PRODUCT OF THE YEAR**



edge ai + vision  
**ALLIANCE™**

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**BEST EDGE AI  
PROCESSOR**



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**ALLIANCE™**

**Qualcomm**

**Snapdragon  
8 Elite**

**WINNER**

**BEST EDGE AI  
PROCESSOR IP**



**2025**

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PRODUCT OF THE YEAR**



edge ai + vision  
**ALLIANCE™**

**WINNER**

**BEST EDGE AI  
PROCESSOR IP**

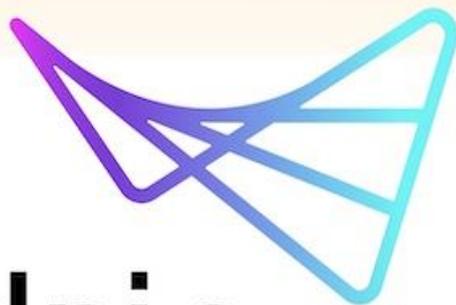


**2025**

**EDGE AI AND VISION  
PRODUCT OF THE YEAR**



edge ai + vision  
**ALLIANCE**



**Quadric**

**Chimera QC Series  
GPNPU Processors**

**WINNER**

**BEST EDGE AI  
SOFTWARE  
OR ALGORITHM**



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**EDGE AI AND VISION  
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 **visidon**

**Visidon Real-Time  
Video Noise Reduction**

**WINNER**

**BEST CAMERA  
OR SENSOR**



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**WINNER**

**BEST CAMERA  
OR SENSOR**



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**AIRY3D**

**DepthIQ**

**WINNER**

**BEST EDGE AI  
DEVELOPMENT  
PLATFORM**



**2025**

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PRODUCT OF THE YEAR**



edge ai + vision  
**ALLIANCE™**

**WINNER**



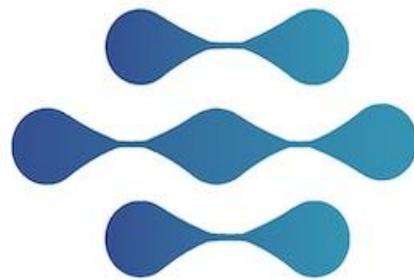
2025

**EDGE AI AND VISION  
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edge ai + vision  
**ALLIANCE™**

**BEST EDGE AI  
DEVELOPMENT  
PLATFORM**



**ENERZAI**  
**Optimum**

**WINNER**

**BEST EDGE AI  
COMPUTERS OR  
BOARDS**



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COMPUTERS OR  
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**memoryX**

**MX3 M.2  
AI Accelerator  
Module**

 2025  
EDGE AI AND VISION  
PRODUCT OF THE YEAR™

**Congratulations to the  
2025 Product of the Year  
Award winners!**



# Keynote: The Future of Visual AI: Efficient Multimodal Intelligence



**Trevor Darrell**  
Professor  
University of California, Berkeley