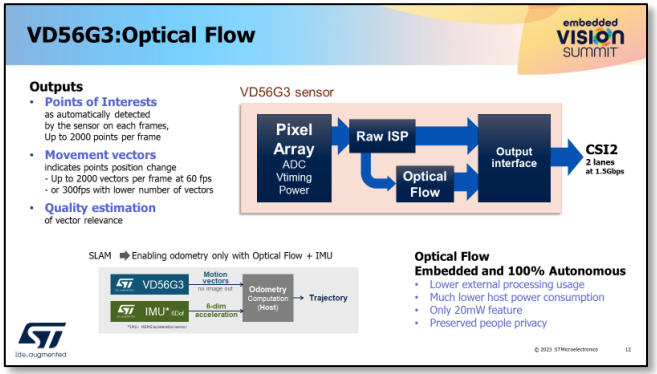
A View from the Summit (Part 2)

Jeff Bier
Founder, Edge AI and Vision Alliance
President, BDTI
May 24, 2023

What I Learned Yesterday



Ruchi Upadhyay, ST

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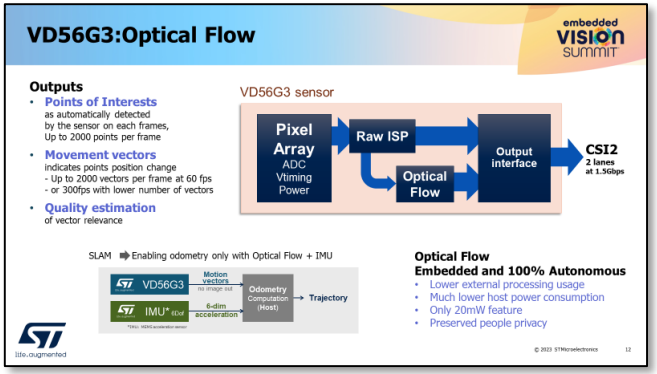
What I Learned Yesterday



Ruchi Upadhyay, ST

Keurig Dr Pepper

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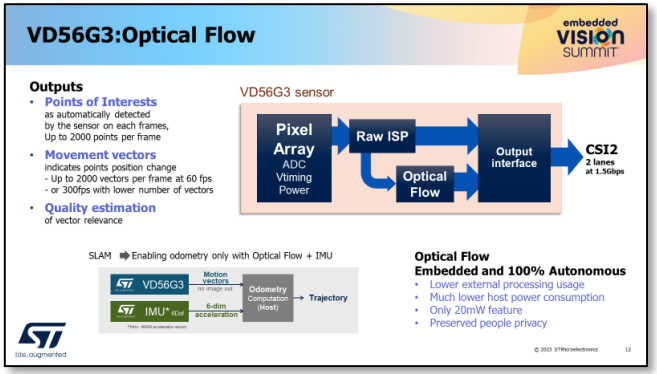
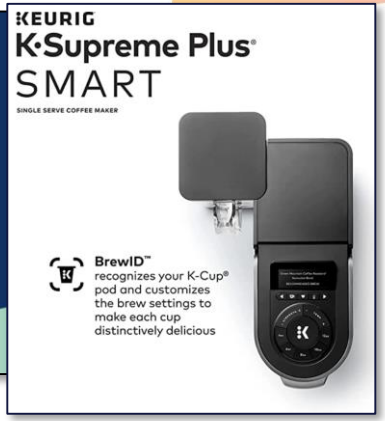
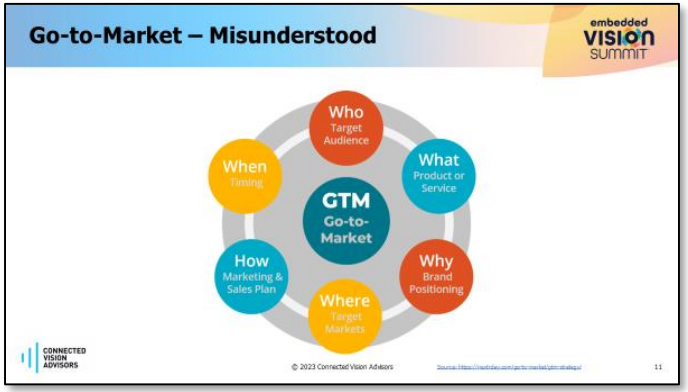
What I Learned Yesterday



Ruchi Upadhyay, ST



Keurig Dr Pepper



Simon Morris, Connected Vision Advisors

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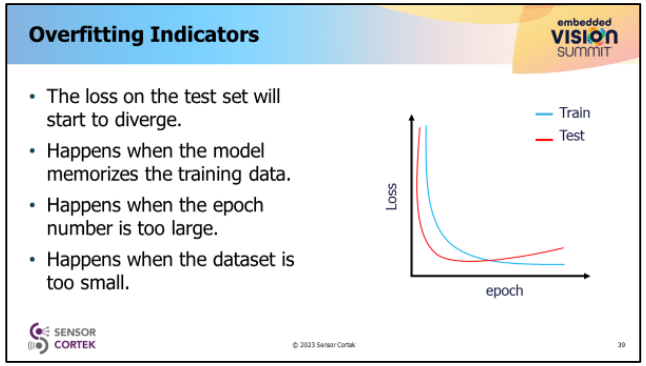
What I Learned Yesterday



Fahed Hassenat, Sensor Cortek

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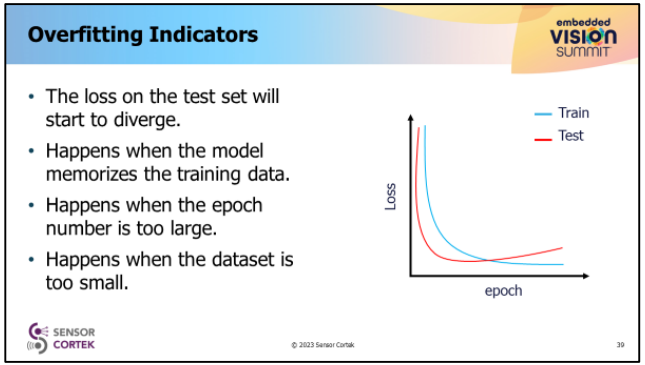
What I Learned Yesterday



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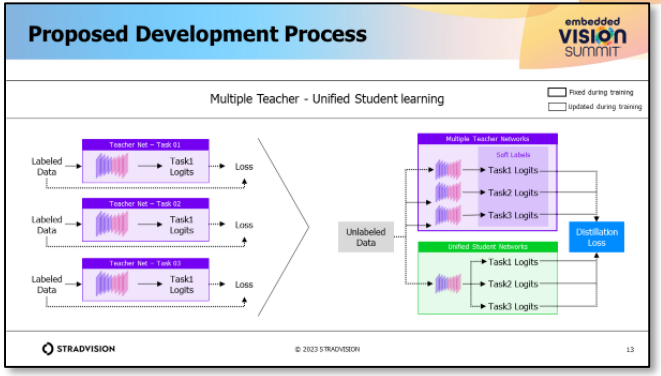

Jack Sim, Stradvision

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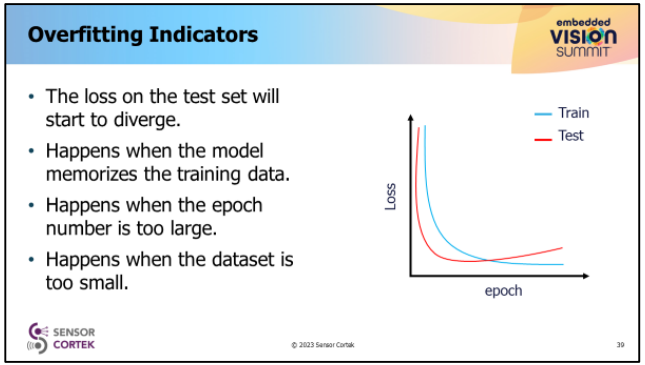
What I Learned Yesterday



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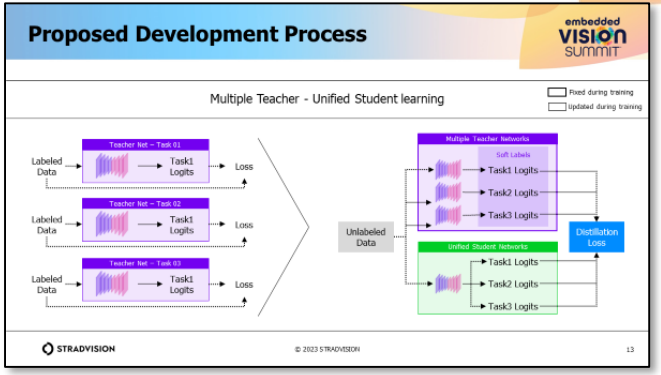

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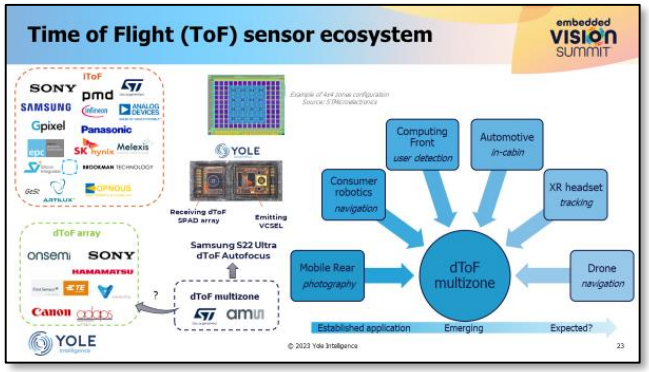

Florian Domengie, Yole

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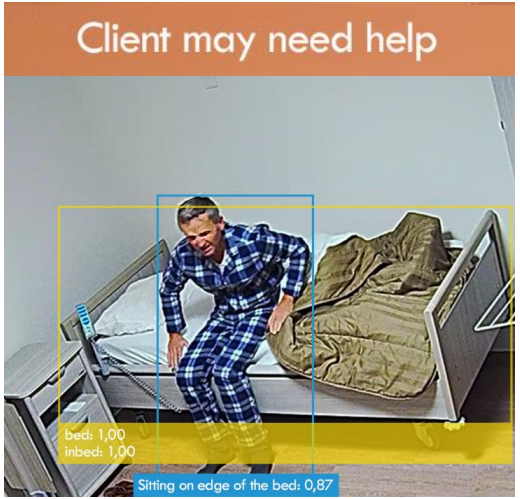
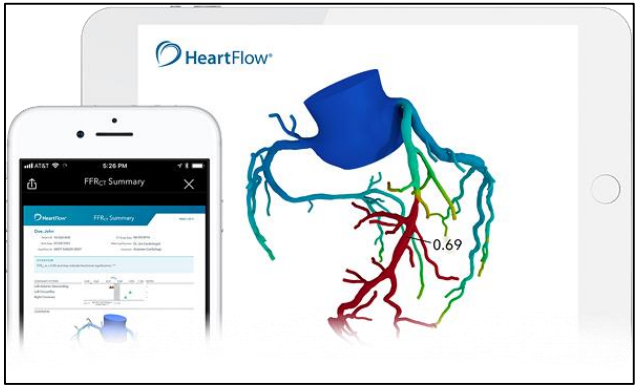
Opportunities: Health Care

Applications at Scale: Health Care

VirtuSense



Kepler Vision Technologies



HeartFlow

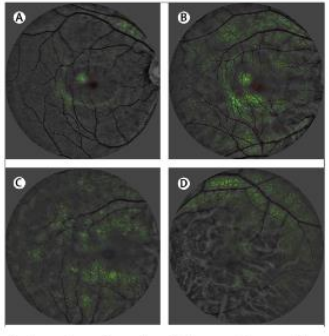
Applications at Scale: Health Care

Sight Diagnostics

Verily

What Machines See in the Human Retina

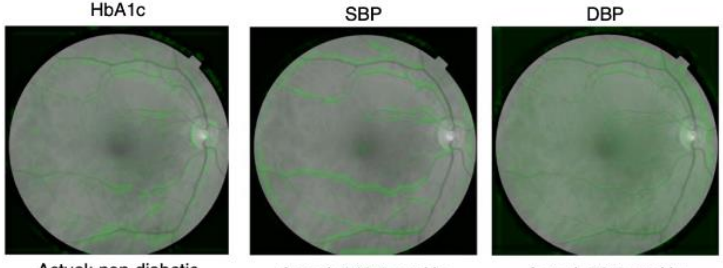
Kidney Disease



A deep learning algorithm to detect chronic kidney disease from retinal photographs in community-based populations

Lancet Digital Health May 2020

Diabetes and Blood Pressure Control



Prediction of cardiovascular risk factors from retinal fundus photographs via deep learning

nature biomedical engineering March 2018

Alzheimer's Disease

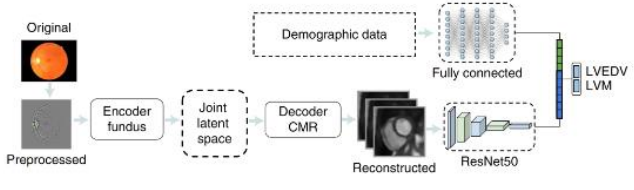
A system based on AI will scan the retina for signs of Alzheimer's

AlzEye — Detecting signs of dementia in the retina

Moorfields Eye Hospital NHS Foundation Trust

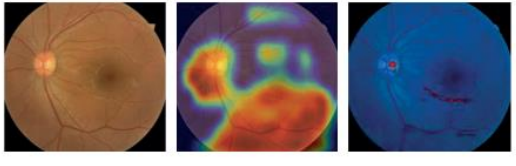
Lancet Digit Health :Sept 2022

Predicting heart attack



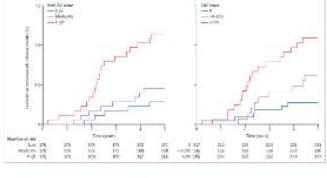
nature machine intelligence Predicting myocardial infarction through retinal scans and minimal personal information Jan 2022

Liver and Gall Bladder Disease



Lancet Digit Health Feb 2021

Heart Calcium Score

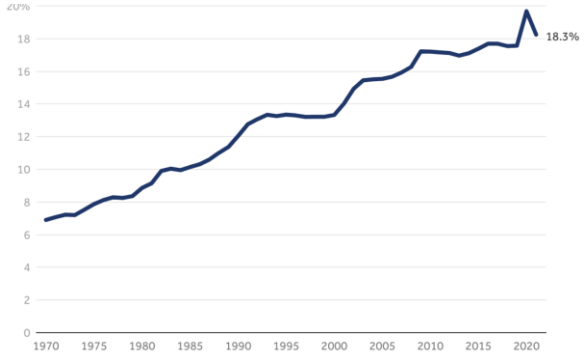


Lancet Digit Health Apr 2021

Perceptual AI in Healthcare

- Earlier and more accurate detection of health issues
- More convenient care (e.g., at home)
- Less invasive tests
- More effective treatment
- Reduced costs

Total U.S. Health Expenditures as a % of Gross Domestic Product



Peterson-KFF Health System Tracker

- U.S. healthcare spending is over $4 trillion, ~18% of GDP (as of 2021)[1]
- Worldwide healthcare spending is over $9 trillion, ~11% of GDP (as of 2020)[2]

[1] Commonwealth Fund
[2] World Health Organization

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Hazard Ahead: Bias

- Perceptual and other forms of AI are fueling powerful advances in healthcare
- As the role of AI grows, bias in algorithms is a huge risk

"Dermatologist-level Detection of Suspicious Pigmented Skin Lesions from Wide-field Images"

Soenksen, MIT News

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Hazard Ahead: Bias

- Perceptual and other forms of AI are fueling powerful advances in healthcare
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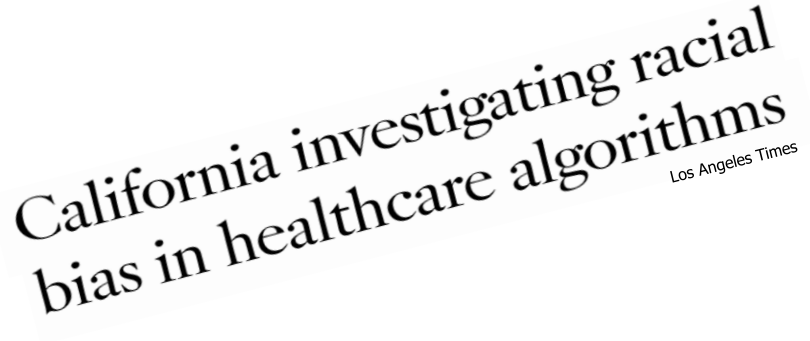
- Regulators are showing interest in this topic



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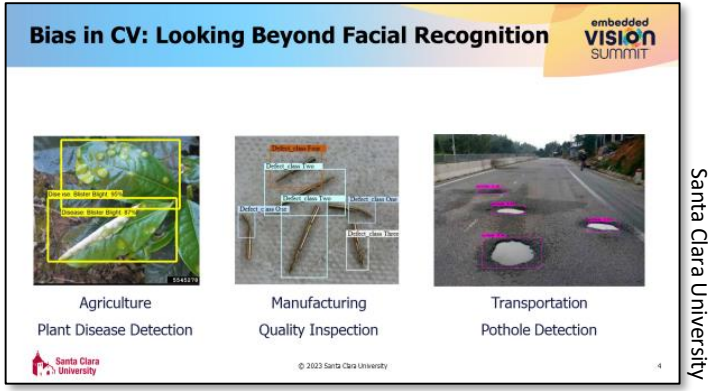
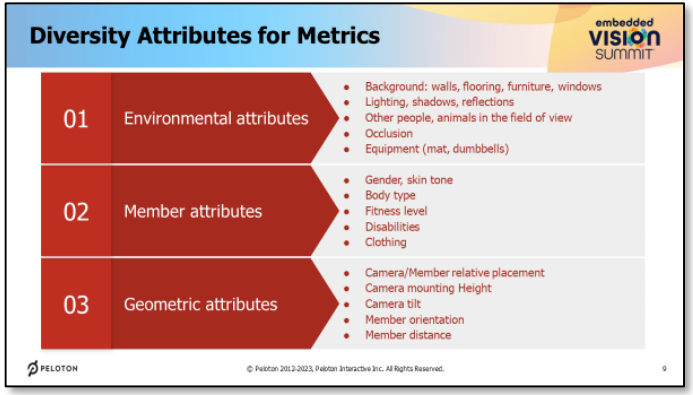
Hazard Ahead: Bias

- Perceptual and other forms of AI are fueling powerful advances in healthcare
- As the role of AI grows, bias in algorithms is a huge risk
- Regulators are showing interest in this topic
- Minimizing harmful biases can't be an afterthought



Susan Kennedy, Santa Clara University



Sanjay Nichani, Peloton

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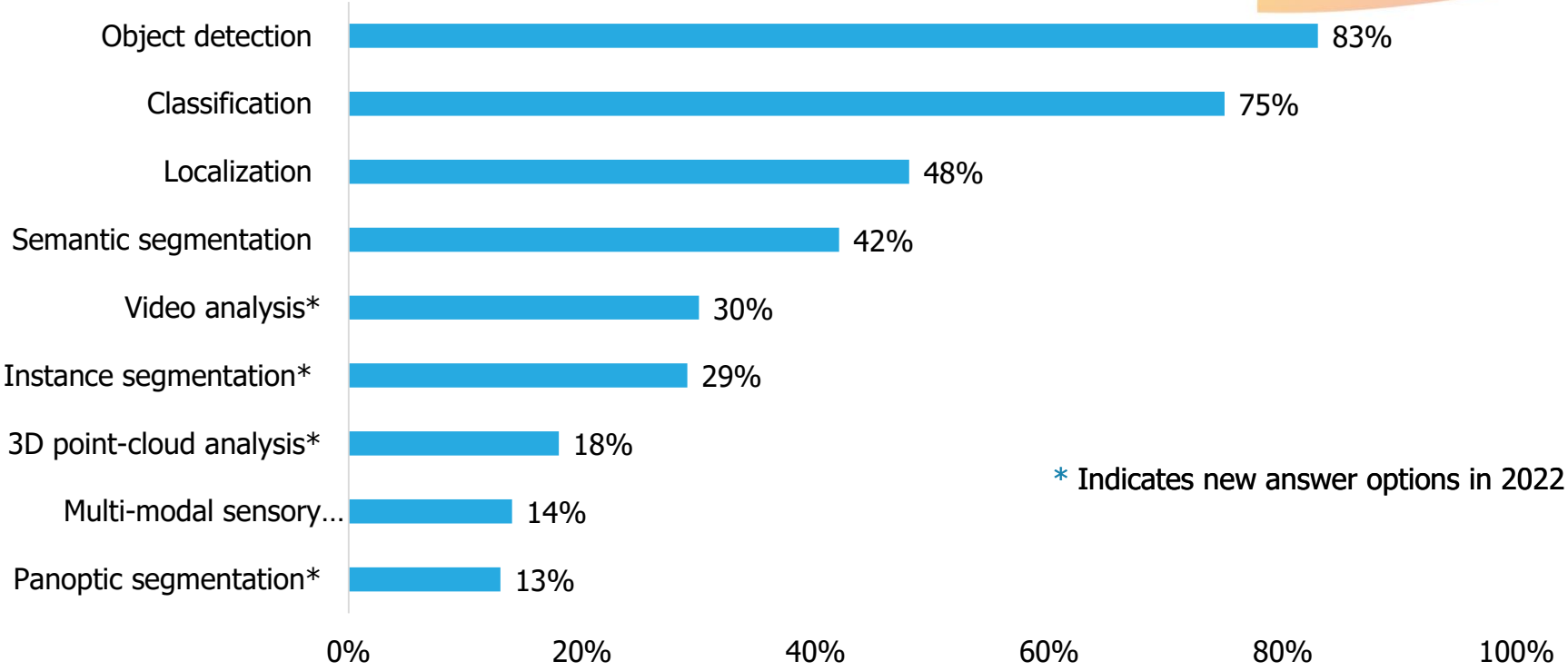
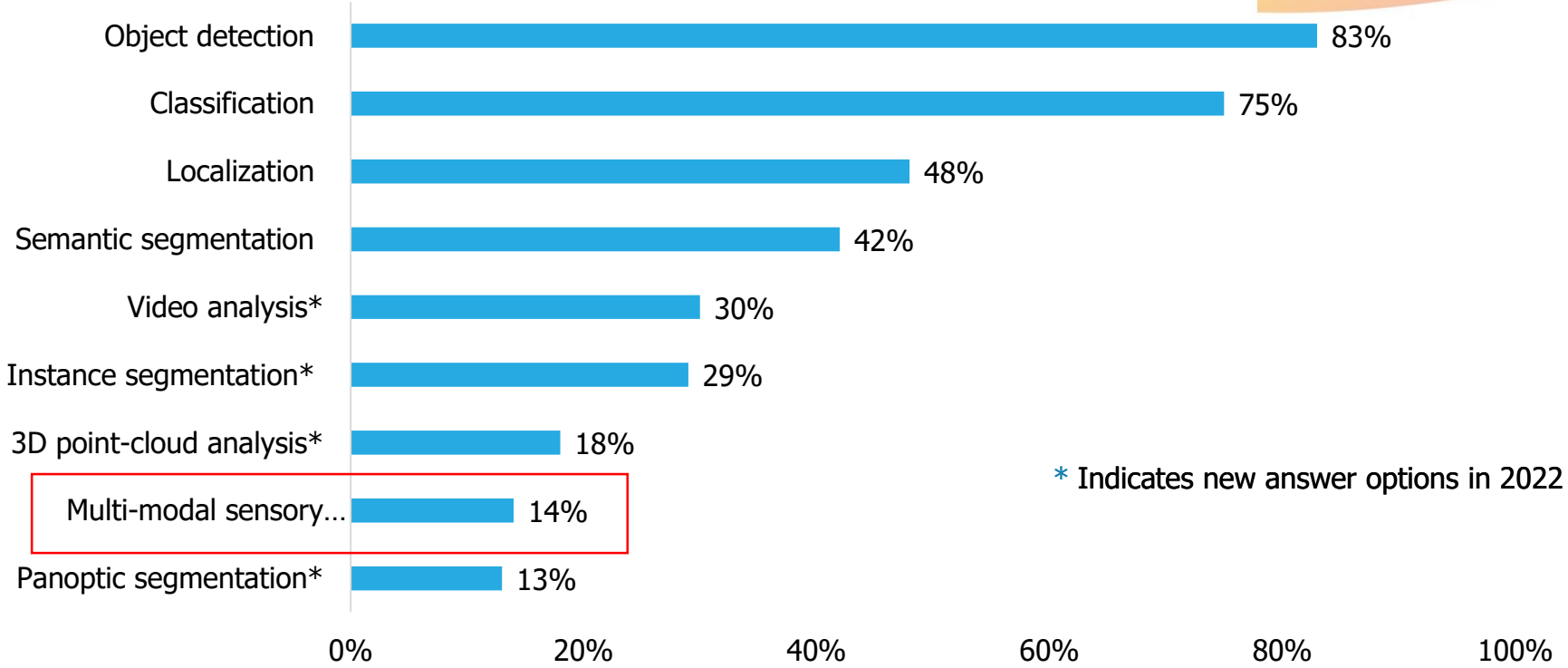
Functions Served by Neural Networks

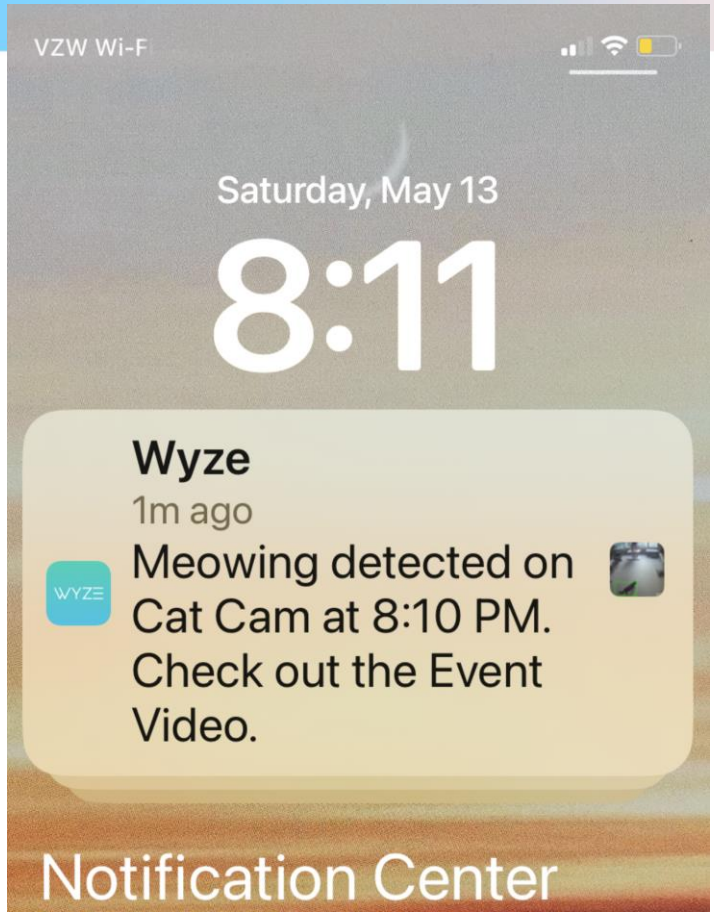


Source: Edge AI and Vision Alliance, *Computer Vision Developer Survey, November 2022*

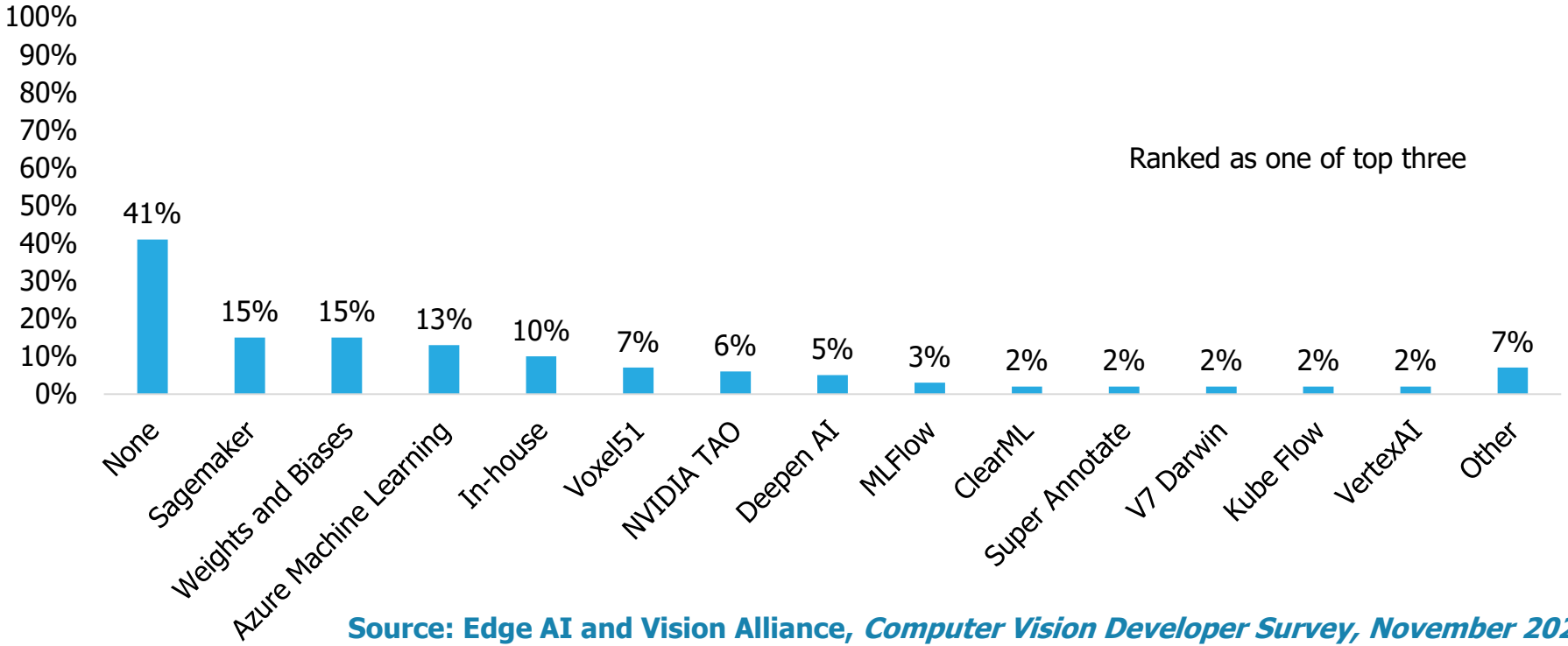
Functions Served by Neural Networks



Source: Edge AI and Vision Alliance, *Computer Vision Developer Survey, November 2022*


VZW Wi-F
Saturday, May 13
8:11
Wyze
1m ago
Meowing detected on Cat Cam at 8:10 PM. Check out the Event Video.
Notification Center

Tools Used for Managing and Automating Deep Neural Network Training and Data



Source: Edge AI and Vision Alliance, *Computer Vision Developer Survey, November 2022*

See You Next Year—

2 Weeks Earlier!

May 7-9, 2024

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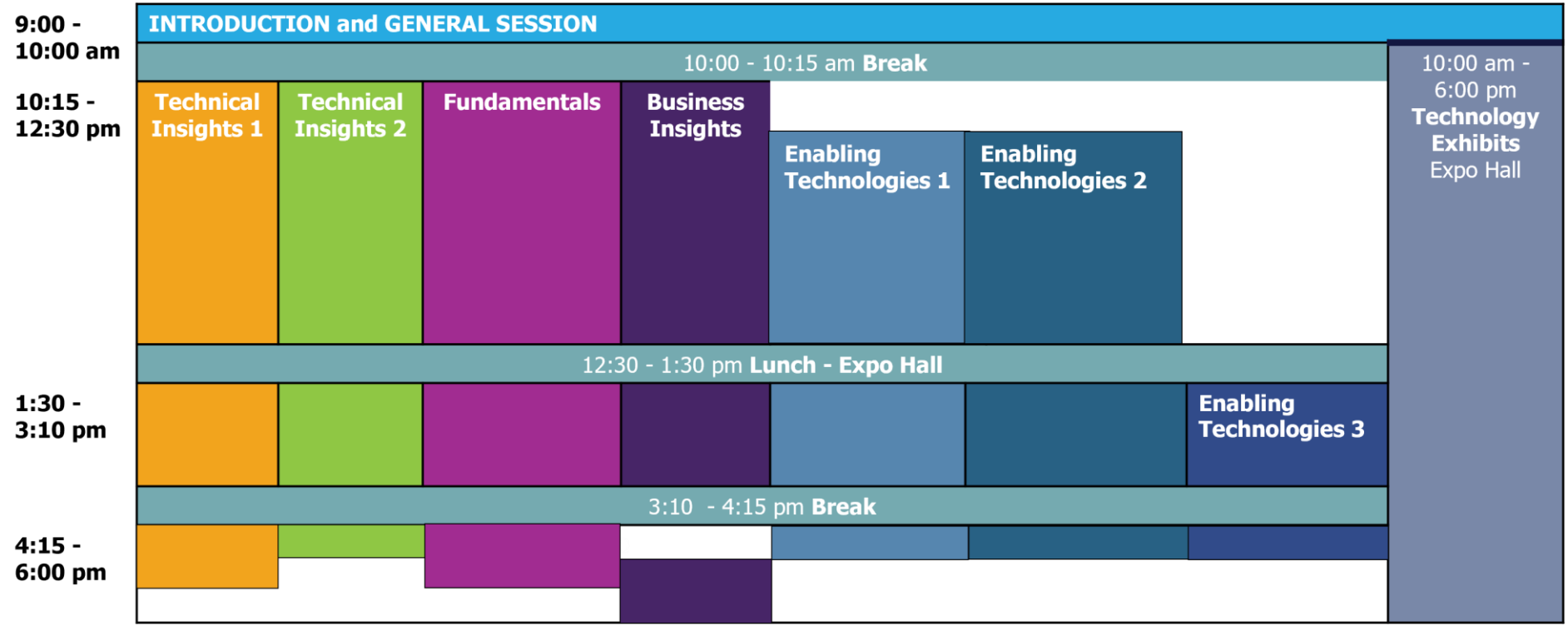
Making the Most of Your Day

Wednesday Schedule



Check Out the Exhibits!

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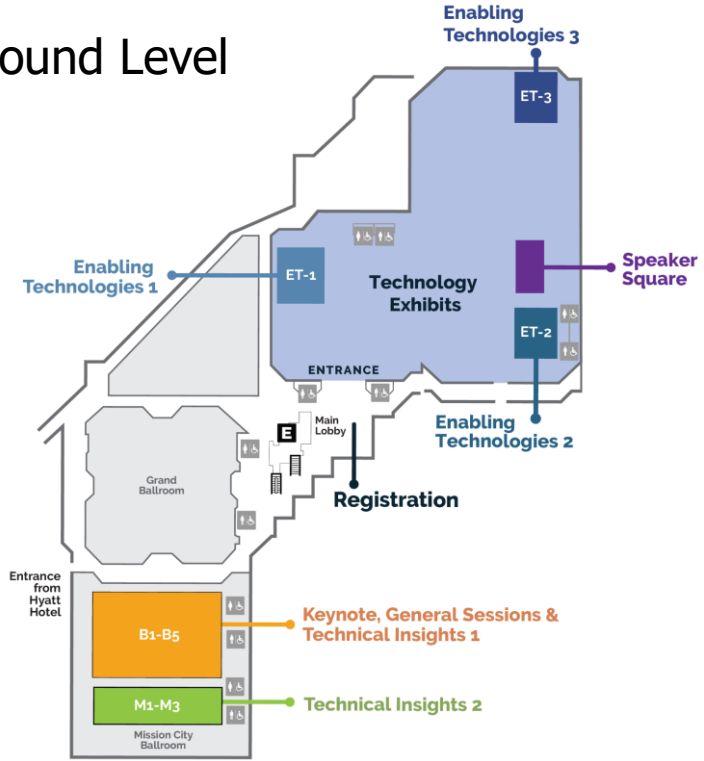
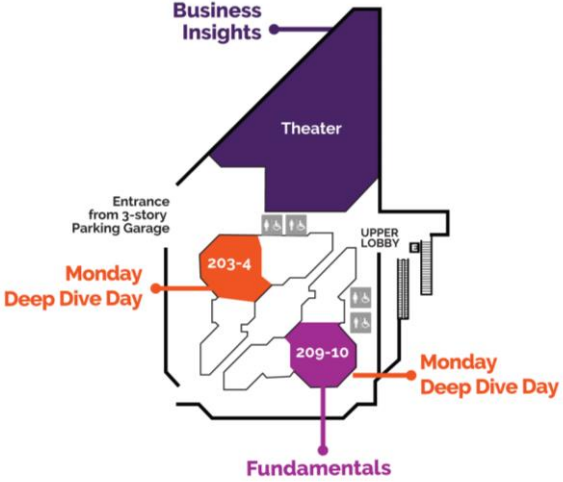
Facility Map

Ground Level



Upstairs



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Speaker Office Hours (in the Speaker Square)

embedded VISION SUMMIT

Greg Kostello
Huma.AI

Roland Memisivic
Qualcomm AI

(All at 10:30 am)

Vivek Pradeep
Microsoft

Steve Teig
Perceive

Generative AI

Today!

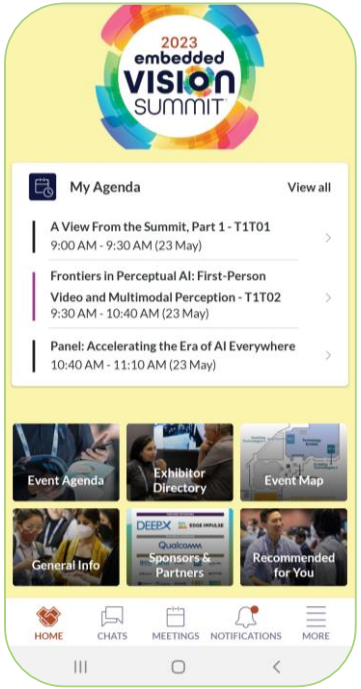
11:30 am: Alex Thaman
Red Cell Partners
Bias in computer vision systems

2:30 pm: Jason Lavene
Keurig Dr Pepper
Developing low-cost vision systems

1:30 pm: Chris Rowen
Cisco
Machine learning for video

3:30 pm: Ian Riches
TechInsights
Automotive markets and technologies

Download Our App and Get the Full Summit Agenda on Your Phone!



Check your email for login details from noreply@event.embeddedvisionsummit.com

Questions? Need login help?
Visit Registration.

Turn on notifications to receive important reminders.

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Please fill out your Embedded Vision Summit survey!

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

edge ai + vision ALLIANCE
Inspiring + empowering innovators to design systems that perceive + understand

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Thank You!

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Panel on Generative AI:
How Will It Impact Edge Applications and Machine Perception?

Sally Ward-Foxton
EE Times

Greg Kostello
Huma.AI

Roland Memisevic
Qualcomm AI Research

Vivek Pradeep
Microsoft

Steve Teig
Perceive

Text your questions to +1 408-400-2702

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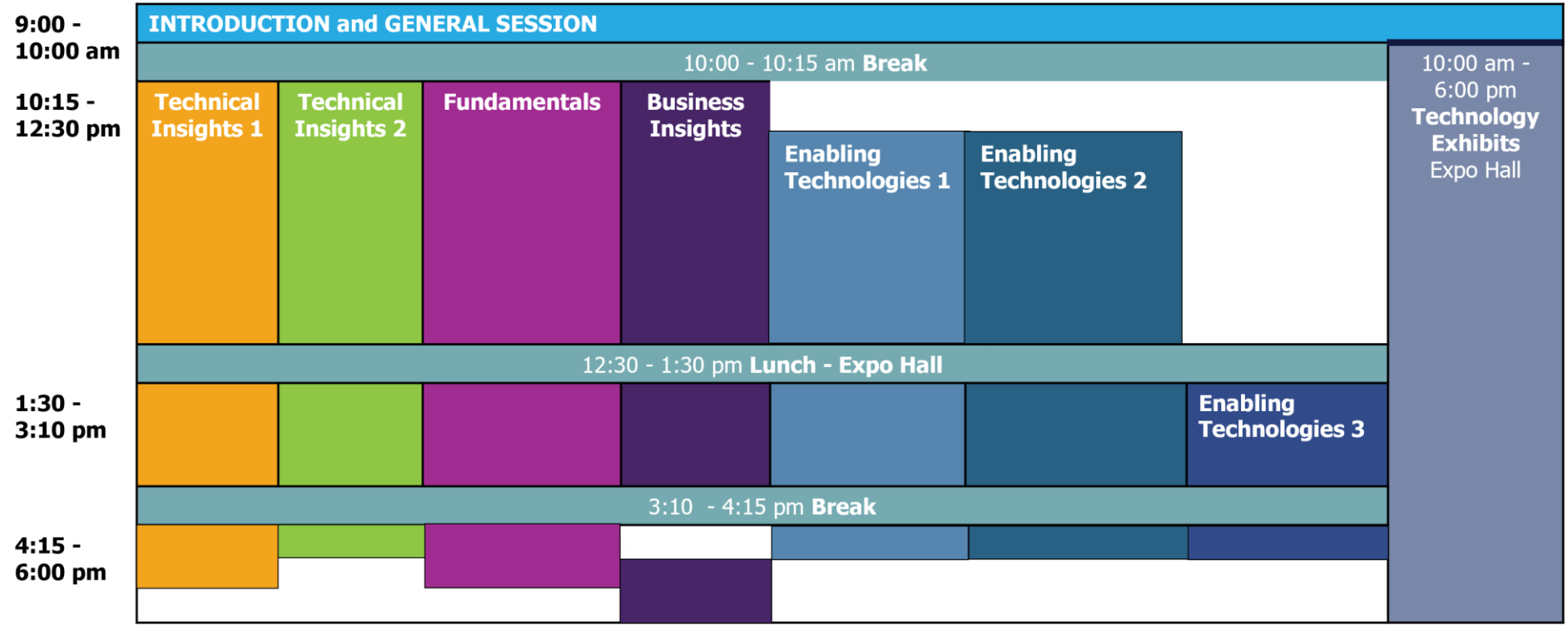
Wednesday Schedule