Edge AI Deep Dive Day™ — Monday May 22

8:00 am - 5:00 pm
Registration

Separate Registration Required ($25/Session)

Qualcomm

9:00 am - 12:00 pm | Room 209-210 (Upstairs)
A Practical Guide to Building Edge AI Apps
Most AI algorithms created for edge applications are initially developed on workstations. Developers then often struggle to get these workloads running on edge devices. The Qualcomm AI Stack makes it easy to retarget algorithms to edge hardware by supporting frameworks and data types that AI developers are familiar with. And it provides a set of tools that empower developers to extract the best performance and energy efficiency from their target hardware. In this session, we will walk you through the steps of building a sample Android application for AI-based image super-resolution using the Qualcomm AI Stack.

Nota AI

12:00 pm - 3:00 pm | Room 203-204 (Upstairs)
Maximizing Efficiency of Edge AI Models with Minimum Effort
Deep neural networks are revolutionizing machine perception, but developing DNNs for edge devices is typically a time-consuming and error-prone process. Learn how to create, optimize and deploy DNNs at the edge in just days with Nota's NetsPresso AI model optimization platform. See uses on real-world use cases and applications.

EDGE IMPULSE

3:00 pm - 6:00 pm | Room 209-210 (Upstairs)
Create Better Models and Deploy Them Everywhere with Edge Impulse
Part 1: Data Augmentation—Training Better Image Classification Models with Less Data
Use Google Colab and Edge Impulse to examine various image augmentation techniques to generate new data from a small initial dataset.
Part 2: Develop and Deploy Vision Models at the Edge—with No Code
Learn how to quickly and easily create vision models and deploy them at the edge without writing code.

Attendees of the Edge Impulse Deep Dive can look forward to a **complementary reception** hosted by Edge Impulse!

Summit — Tuesday May 23

7:30 am - 7:00 pm
Registration

7:30 am - 9:00 am
Coffee and Pastries

9:00 am - 11:10 am
Introduction, Keynote and General Session
Mission City Ballroom—B1-B5

INTRODUCTION
A View from the Summit (Part 1)
Jeff Bier, Founder, Edge AI and Vision Alliance

KEYNOTE
Frontiers in Perceptual AI: First-Person Video and Multimodal Perception
Kristen Grauman, Professor, University of Texas at Austin / Research Director, Facebook AI Research

GENERAL SESSION
Panel: Accelerating the Era of AI Everywhere
Sponsored by DEEPX
Moderator: Jeff Bier, President, BDTI / Founder, Edge AI and Vision Alliance
Panelists: Dean Kamen, Founder, DEKA Research & Development
Lokwon Kim, CEO, DEEPX
Jason Lavene, Director, Advanced Development Engineering, Keurig Dr Pepper
Pete Warden, Chief Executive Officer, Useful Sensors

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

11:10 am - 11:25 am Break	
11:25 am - 12:30 pm	**Morning Sessions**
Technical Insights 1	Technical Insights 2
Fundamentals	Business Insights

12:30 pm - 1:30 pm Lunch Exhibit Hall	
1:30 pm - 3:10 pm	**Afternoon Sessions**
Technical Insights 1	Technical Insights 2
Fundamentals	Business Insights
Enabling Technologies 1	
Enabling Technologies 2	

3:10 pm - 4:15 pm Break	
4:15 pm - 5:55 pm	**Afternoon Sessions**
Technical Insights 1	Technical Insights 2
Fundamentals	Business Insights
Enabling Technologies 1	
Enabling Technologies 2	
Enabling Technologies 3	

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

6:00 pm - 7:30 pm	**Evening Events**

6:00 pm - 6:30 pm
Edge AI and Vision Product of the Year Awards
Exhibit Hall—ET-3

6:30 pm - 7:30 pm
Women in Vision Reception
Exhibit Hall—ET-1

Summit — Wednesday May 24

7:30 am - 6:00 pm
Registration

7:30 am - 9:00 am
Coffee and Pastries

9:00 am - 10:00 am
Introduction and General Session
Mission City Ballroom—B1-B5

INTRODUCTION
A View from the Summit (Part 2)
Jeff Bier, Founder, Edge AI and Vision Alliance

GENERAL SESSION
Panel on Generative AI: How Will It Impact Edge Applications and Machine Perception?
Moderator: Sally Ward-Foxton, Senior Reporter, EE Times
Panelists: To be announced

10:00 am - 6:00 pm Technology Exhibits — Exhibit Hall

10:00 am - 10:15 am Break	
10:15 am - 10:45 am	**Morning Sessions**
Technical Insights 1	Technical Insights 2
Fundamentals	Business Insights
10:50 am - 12:30 pm	**Morning Sessions**
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Fundamentals	Business Insights
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12:30 pm - 1:30 pm Lunch Exhibit Hall	
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Technical Insights 1	Technical Insights 2
Fundamentals	Business Insights
Enabling Technologies 1	
Enabling Technologies 2	
Enabling Technologies 3	

4:50 pm - 5:55 pm
Vision Tank Start-Up Competition
Theater (Upstairs)

Separate Registration Required ($25/Session)

Qualcomm

9:00 am - 12:00 pm | Room 209-210 (Upstairs)

A Practical Guide to Building Edge AI Apps

Most AI algorithms created for edge applications are initially developed on workstations. Developers then often struggle to get these workloads running on edge devices. This holds true for a wide range of applications, from IoT to automotive to XR to mobile to compute.

The Qualcomm AI Stack streamlines the path from initial algorithm development to edge deployment. The Qualcomm AI Stack makes it easy to retarget algorithms to edge hardware by supporting frameworks and data types that AI developers are familiar with. And it provides a set of tools that empower developers to extract the best performance and energy efficiency from their target hardware.

In this session, we will walk you through the steps of building a sample Android application for AI-based image super-resolution using the Qualcomm AI Stack. Through this sample app, we'll show how applications built with AI runtimes utilize hardware optimizations for Qualcomm devices. We will also share tips and tricks on quantization, explore how model accuracy affects performance and power and outline the tooling that helps developers successfully implement new AI capabilities in their products.

Coffee and pastries will be provided

Nota AI

12:00 pm - 3:00 pm | Room 203-204 (Upstairs)

Maximizing Efficiency of Edge AI Models with Minimum Effort

Deep neural networks are revolutionizing machine perception, bringing incredible new capabilities to many types of systems. But developing DNNs for edge devices is typically a time-consuming and error-prone process. In this session:

- We'll show how the NetsPresso AI model optimization platform drastically simplifies the process of selecting a model, training it, compressing it and deploying it—taking into account the specific capabilities and limitations of the target hardware.

- We'll show how NetsPresso uses neural architecture search to quickly find the best model for your specific application and hardware, and then trains the model in a hardware-aware manner to optimize accuracy and latency for your processor.

- Next, we'll explain how NetsPresso automatically applies model compression and acceleration techniques to make your model small and fast without sacrificing accuracy.

- Finally, we'll show how NetsPresso simplifies deployment of optimized models on embedded hardware by automatically generating executable code and packaging it in a form that can easily be integrated into your application.

We'll illustrate these capabilities using real-world use cases and applications, and we'll evaluate the optimized models produced by NetsPresso.

Join us to learn how you can create, optimize and deploy DNNs at the edge in days rather than months.

Snacks will be provided

EDGE IMPULSE

3:00 pm - 6:00 pm | Room 209-210 (Upstairs)
Reception immediately following

Create Better Models and Deploy Them Everywhere with Edge Impulse

Part 1: Data Augmentation—Training Better Image Classification Models with Less Data

Image classification can be tricky, especially as objects may appear under different lighting conditions and in different locations, orientations or zoom levels. While capturing new, original data is the ideal approach for creating a robust dataset for machine learning model training, we can use data augmentation to automatically generate data when original data capture is overly difficult or time consuming.

In this workshop, we will use Google Colab and Edge Impulse to examine various image augmentation techniques to generate new data from a small initial dataset.

Part 2: Develop and Deploy Vision Models at the Edge—with No Code

In this workshop, attendees will learn how to quickly and easily create vision models and deploy them at the edge without writing code. We'll work hands-on with the Edge Impulse cloud-based development environment to develop a model, and then deploy it on hardware using a Texas Instruments SK-TDA4VM starter kit. The SK-TDA4VM starter kit is based on TI's TDA4VM processor, which features 8 TOPS of deep learning performance and low power consumption. This combination of development techniques, tools and hardware is ideally suited to a wide range of vision applications, including industrial, agriculture and security applications.

*After the workshop, join your Edge Impulse hosts for food and drinks at a **complimentary reception** on the outdoor terrace!*

Reception: 6:00 pm - 7:30 pm

Keynote

9:30 am - 10:40 am

Tuesday

Frontiers in Perceptual AI: First-Person Video and Multimodal Perception

Kristen Grauman
Professor, University of Texas at Austin / Research Director, Facebook AI Research

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 bring together audio, language and vision.

To begin, I'll introduce Ego4D, a massive new open-sourced multimodal egocentric dataset that captures the daily-life activity of people around the world. The result of a multi-year, multi-institution effort, Ego4D pushes the frontiers of first-person multimodal perception with a suite of research challenges ranging from activity anticipation to audio-visual conversation.

Building on this resource, I'll present our ideas for searching egocentric videos with natural language queries ("Where did I last see X? Did I leave the garage door open?"), injecting semantics from text and speech into powerful video representations, and learning audio-visual models to understand a camera wearer's physical environment or augment their hearing in busy places.

I'll also touch on interesting performance-oriented challenges raised by having very long video sequences (hours!) and ideas for learning to scale retrieval and encoders.

About Kristen Grauman

Kristen Grauman is a Professor in the Department of Computer Science at the University of Texas at Austin and a Research Director in Facebook AI Research (FAIR). Her research in computer vision and machine learning focuses on video, visual recognition and action for perception or embodied AI. Before joining UT-Austin in 2007, she received her PhD at MIT and BA at Boston College. She is an IEEE Fellow, AAAI Fellow, Sloan Fellow, a Microsoft Research New Faculty Fellow and a recipient of NSF CAREER and ONR Young Investigator awards, the PAMI Young Researcher Award, the 2013 Computers and Thought Award from the International Joint Conference on Artificial Intelligence (IJCAI), the Presidential Early Career Award for Scientists and Engineers (PECASE), the J.K. Aggarwal Prize and a finalist for the Blavatnik National Award for Young Scientists. She was inducted into the UT Academy of Distinguished Teachers in 2017. She and her collaborators have been recognized with several Best Paper awards in computer vision, including a 2011 Marr Prize and a 2017 Helmholtz Prize (test of time award). She has given plenary keynotes at ICLR, IROS, MICCAI, ICPR, BMVC, ICIP, AAAI, IJCAI and AAMAS. She served for six years as an Associate Editor-in-Chief for the *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)* and for ten years as an Editorial Board member for the *International Journal of Computer Vision (IJCV)*. She also served as a Program Chair of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2015, Neural Information Processing Systems (NeurIPS) 2018 and the IEEE International Conference on Computer Vision (ICCV) 2023.

General Sessions

10:40 am - 11:10 am

Tuesday

Panel: Accelerating the Era of AI Everywhere

Sponsored by DEEPX

Moderator: Jeff Bier
President, BDTI / Founder, Edge AI and Vision Alliance

Panelists:

Dean Kamen
Founder, DEKA Research & Development

Lokwon Kim
CEO, DEEPX

Jason Lavene
Advanced Development Engineering, Keurig Dr Pepper

Pete Warden
Chief Executive Officer, Useful Sensors

Join us on a journey toward the era of AI everywhere—where perceptual AI at the edge is as commonplace as LCD displays and wireless connectivity.

Our panel of distinguished industry experts will share their insights on what it will take to unlock the full potential of this groundbreaking technology, empowering it to enhance ease of use, safety, autonomy and numerous other capabilities across a wide range of applications.

We will delve into the challenges that early adopters of perceptual AI have faced and why some product developers may still perceive it as too complicated, expensive or unreliable—and what can be done to address these issues.

Above all, we will chart a path forward for the industry, aiming to "cross the chasm" and make perceptual AI an accessible and indispensable feature of everyday products.

9:30 am - 10:00 am

Wednesday

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

Moderator: Sally Ward-Foxton
Senior Reporter, EE Times

Panelists:
To be announced

Seemingly overnight, ChatGPT has spurred massive interest in—and excitement around—generative AI, and has become the fastest-growing application in history.

How will generative AI transform how we think about AI and how we use it? What types of commercial applications are best suited for solutions powered by today's generative AI technology?

Will recent advances in generative AI change how we create and use discriminative AI models, like those used for machine perception? Will generative AI obviate the need for massive reservoirs of hand-labeled training data? Will it accelerate our ability to create systems that effortlessly meld multiple types of data, such as text, images and sound?

With state-of-the-art generative models approaching exceeding 100B parameters, will generative models ever be suitable for deployment at the edge? If so, for what use cases?

Join us for a lively and insightful panel discussion to explore these and many other questions around the rapidly evolving role of generative AI in edge and machine perception applications.

Technical Insights 1 Mission City Ballroom—B1-B5	Technical Insights 2 Mission City Ballroom—M1-M3	Fundamentals Theater (Upstairs)	Business Insights Theater (Upstairs)	Enabling Technologies 1 Exhibit Hall—ET-1	Enabling Technologies 2 Exhibit Hall—ET-2	Enabling Technologies 3 Exhibit Hall—ET-3
11:25 am - 11:55 am T1T04 🌀 **Making GANs Much Better, or If at First You Don't Succeed, Try, Try a GAN** *Steve Teig, CEO, Perceive*	**11:25 am - 11:55 am** T2T04 🌀 **Vision-Language Representations for Robotics** *Dinesh Jayaraman, Assistant Professor, University of Pennsylvania*	**11:25 am - 12:30 pm** FT04 🌀 **Introduction to Computer Vision with Convolutional Neural Networks** *Mohammad Haghighat, Independent*	**11:25 am - 11:55 am** BT04 🌀 **Reinventing Smart Cities with Computer Vision** *Vaibhav Ghadiok, Co-Founder and CTO, Hayden AI*			
12:00 pm - 12:30 pm T1T05 **Efficient Neuromorphic Computing with Dynamic Vision Sensor, Spiking Neural Network Accelerator and Hardware-Aware Algorithms** *Jae-sun Seo, Associate Professor, Arizona State University*	**12:00 pm - 12:30pm** T2T05 **Detecting Data Drift in Image Classification Neural Networks** *Spyros Tragoudas, Professor and School Director, Southern Illinois University Carbondale*		**12:00 pm - 12:30 pm** BT05 🌀 **Bias in Computer Vision— It's Bigger Than Facial Recognition!** *Susan Kennedy, Assistant Professor of Philosophy, Santa Clara University*			

12:30 pm - 1:30 pm Lunch in the Exhibit Hall | **12:30 pm - 1:30 pm Lunch in the Exhibit Hall**

Technical Insights 1	Technical Insights 2	Fundamentals	Business Insights	Enabling Technologies 1	Enabling Technologies 2	Enabling Technologies 3
1:30 pm - 2:00 pm T1T06 🌀 **Developing an Embedded Vision AI-Powered Fitness System** *Sanjay Nichani, VP, Artificial Intelligence and Computer Vision, Peloton Interactive*	**1:30 pm - 2:00 pm** T2T06 🌀 **Learning Compact DNN Models for Embedded Vision** *Shuvra Bhattacharyya, Professor, University of Maryland, College Park*	**1:30 pm - 2:35 pm** FT06 🌀 **Fundamentals of Training AI Models for Computer Vision Applications** *Amit Mate, Founder and CEO, GMAC Intelligence*	**1:30 pm - 2:00 pm** BT06 🌀 **Advanced Presence Sensing: What It Means for the Smart Home** *Jack Narcotta, Principal Analyst, Smart Home, Omdia*	**1:30 pm - 2:00 pm** E1T06 **DEEPX's New M1 NPU Delivers Flexibility, Accuracy, Efficiency and Performance** *Jay Kim, Executive Vice President, DEEPX*	**1:30 pm - 2:00 pm** E2T06 **AI-ISP: Adding Real-Time AI Functionality to Image Signal Processing with Reduced Memory Footprint and Processing Latency** *Mankit Lo, Chief Architect, NPU IP Development, VeriSilicon*	
2:05 pm - 2:35 pm T1T07 **Selecting Image Sensors for Embedded Vision Applications: Three Case Studies** *Monica Houston, Technical Solutions Manager, Avnet*	**2:05 pm - 3:10 pm** T2T07 🌀 **Fireside Chat: Embedded Vision in Robotics, Biotech and Education—A Conversation with Dean Kamen** *Dean Kamen, Founder, DEKA Research & Development*		**2:05 pm - 2:35 pm** BT07 🌀 **Navigating the Evolving Venture Capital Landscape for Edge AI Start-Ups** *Todd Poole, Director, Venture Capital Investments, HPE Pathfinder*	**2:05 pm - 2:35 pm** E1T07 **Accelerating Newer ML Models Using the Qualcomm AI Stack** *Vinesh Sukumar, Senior Director and Head of AI/ML Product Management, Qualcomm Technologies*	**2:05 pm - 2:35 pm** E2T07 **Building Large-Scale Distributed Computer Vision Solutions Without Starting from Scratch** *Darren Odom, Director of Platform Business Development, Network Optix*	
2:40 pm - 3:10 pm T1T08 **Item Recognition in Retail** *Sumedh Datar, Senior Machine Learning Engineer, 7-Eleven*		**2:40 pm - 3:10 pm** FT08 **Introduction to the MIPI CSI-2 Image Sensor Interface Standard** *Haran Thanigasalam, Camera and Imaging Consultant, MIPI Alliance*	**2:40 pm - 3:10 pm** BT08 **3D Sensing: Market and Industry Update** *Florian Domengie, Senior Technology and Market Analyst, Yole Intelligence*	**2:40 pm - 3:10 pm** E1T08 **Visual Anomaly Detection with FOMO-AD** *Jan Jongboom, Co-Founder and CTO, Edge Impulse*	**2:40 pm - 3:10 pm** E2T08 **Challenges in Architecting Vision Inference Systems for Transformer Models** *Cheng Wang, Co-Founder and CTO, Flex Logix*	

3:10 pm - 4:15 pm Break - Be sure to visit the Exhibit Hall! | **3:10 pm - 4:15 pm Break - Be sure to visit the Exhibit Hall!**

Technical Insights 1	Technical Insights 2	Fundamentals	Business Insights	Enabling Technologies 1	Enabling Technologies 2	Enabling Technologies 3
4:15 pm - 4:45 pm T1T09 **Computer Vision in Sports: Scalable Solutions for Downmarket Leagues** *Mehrsan Javan, Co-Founder and CTO, Sportlogiq*		**4:15 pm - 5:20 pm** FT09 🌀 **Deep Neural Network Training: Diagnosing Problems and Implementing Solutions** *Fahed Hassanat, COO and Head of Engineering, Sensor Cortek*	**4:15 pm - 4:45 pm** BT09 🌀 **Tracking and Fusing Diverse Risk Factors to Drive a SAFER Future** *Stefan Heck, CEO and Founder, Nauto* *Tahmida Mahmud, Engineering Manager, Perception, Nauto*	**4:15 pm - 4:45 pm** E1T09 **Developing an Efficient Automotive Augmented Reality Solution Using Teacher-Student Learning and Sprints** *Jack Sim, CTO, STRADVISION*	**4:15 pm - 4:45 pm** E2T09 **Develop Next-Gen Camera Apps Using Snapdragon Computer Vision Technologies** *Judd Heape, VP of Product Management for Camera, Computer Vision and Video Technology, Qualcomm Technologies*	**4:15 pm - 4:45 pm** E3T09 **Modernizing the Development of AI-Based IoT Devices with Wedge** *Dan Mihai Dumitriu, Chief Technology Officer, Midokura, a Sony Group company*
4:50 pm - 5:20 pm T1T10 🌀 **Learning for 360° Vision** *Yu-Chuan Su, Research Scientist, Google*			**4:50 pm - 5:20 pm** BT10 🌀 **Lessons Learned in Developing a High-Volume, Vision-Enabled Coffee Maker** *Jason Lavene, Director, Advanced Development Engineering, Keurig Dr Pepper*	**4:50 pm - 5:20 pm** E1T10 **Enabling Ultra-Low-Power Edge Inference and On-Device Learning with Akida** *Nandan Nayampally, Chief Marketing Officer, BrainChip*	**4:50 pm - 5:20 pm** E2T10 **Tensilica Processor Cores Enable Sensor Fusion for Robust Perception** *Pulin Desai, Group Director of Product Marketing, Cadence*	**4:50 pm - 5:20 pm** E3T10 **How to Select, Train, Optimize and Deploy Edge Vision AI Models in Three Days** *Steven Kim, Co-CEO, Nota America*
		5:25 pm - 5:55 pm FT11 **Introduction to Optimizing ML Models for the Edge** *Kumaran Ponnambalam, Principal Engineer of AI, Emerging Tech and Incubation, Cisco*	**5:25 pm - 5:55 pm** BT11 **90% of Tech Start-Ups Fail: What Do the Other 10% Know?** *Simon Morris, Executive Advisor, Connected Vision Advisors*		**5:25 pm - 5:55 pm** E2T11 **Optimized Image Processing for Automotive Image Sensors with Novel Color Filter Arrays** *Young-Jun Yoo, VP of Automotive Biz and Ops Unit, Nextchip*	**5:25 pm - 5:55 pm** E3T11 **Image Sensors to Enable Low-Cost and Low-Power Computer Vision Applications** *Ruchi Upadhyay, Technical Marketing Manager, STMicroelectronics*

Monday

Edge AI Deep Dives

Separate Registration Required ($25 per Session)

9:00 am - 12:00 pm Room 209-210 (Upstairs)

A Practical Guide to Building Edge AI Apps
Presented by:
Qualcomm

12:00 pm - 3:00 pm Room 203-204 (Upstairs)

Maximizing Efficiency of Edge AI Models with Minimum Effort
Presented by:
Nota AI

3:00 pm - 6:00 pm with reception immediately following Room 209-210 (Upstairs)

Create Better Models and Deploy Them Everywhere with Edge Impulse
Presented by:
EDGE IMPULSE

Don't miss the Technology Exhibits Reception 6:00 pm - 7:30 pm for food, drink and demos in the Exhibit Hall!

= Invited presentation

Session codes (e.g., T1T01) allow for quick searching in our event app!

Technical Insights 1 Mission City Ballroom—B1-B5	Technical Insights 2 Mission City Ballroom—M1-M3	Fundamentals Room 209-210 (Upstairs)	Business Insights Theater (Upstairs)	Enabling Technologies 1 Exhibit Hall—ET-1	Enabling Technologies 2 Exhibit Hall—ET-2	Enabling Technologies 3 Exhibit Hall—ET-3

10:15 am - 10:45 am — T1W03
Efficient Many-Function Video ML at the Edge
Chris Rowen, VP of AI Engineering for Webex Collaboration, Cisco

10:15 am - 10:45 am — T2W03
Combating Bias in Production Computer Vision Systems
Alex Thaman, Chief Architect, Red Cell Partners

10:15 am - 11:20 am — FW03
Understanding, Selecting and Optimizing Object Detectors for Edge Applications
Md Nasir Uddin Laskar, Staff Machine Learning Engineer, Walmart Global Tech

10:15 am - 10:45 am — BW03
AI Start-Ups: The Perils of Fishing for Whales (War Stories from the Entrepreneurial Front Lines)
Tim Hartley, VP Product, SeeChange Technologies

10:50 am - 11:20 am — T1W04
Selecting Tools for Developing, Monitoring and Maintaining ML Models
Parshad Patel, Data Scientist, Yummly

10:50 am - 11:20 am — T2W04
Updating the Edge ML Development Process
Jim Steele, VP of Embedded Software, Samsara

10:50 am - 11:20 am — BW04
Responsible AI: Tools and Frameworks for Developing AI Solutions
Mrinal Karvir, Senior Cloud Software Engineering Manager, Intel

10:50 am - 11:20 am — E1W04
Toward the Era of AI Everywhere
Lokwon Kim, CEO, DEEPX

10:50 am - 11:20 am — E2W04
A Very Low-Power Human-Machine Interface Using ToF Sensors and Embedded AI
Di Ai, Machine Learning Engineer, 7 Sensing Software

11:25 am - 11:55 am — T1W05
Using a Collaborative Network of Distributed Cameras for Object Tracking
Samuel Örn, Team Lead and Senior Machine Learning and Computer Vision Engineer, Invision AI

11:25 am - 11:55 am — T2W05
MIPI CSI-2 Image Sensor Interface Standard Features Enable Efficient Embedded Vision Systems
Haran Thanigasalam, Camera and Imaging Consultant, MIPI Alliance

11:25 am - 12:30 pm — FW05
How Transformers Are Changing the Nature of Deep Learning Models
Tom Michiels, System Architect, DesignWare ARC Processors, Synopsys

11:25 am - 11:55 am — BW05
LiDAR Technologies and Markets: What's Changing?
Florian Domengie, Senior Technology and Market Analyst, Yole Intelligence

11:25 am - 11:55 am — E1W05
Deploy Your Embedded Vision Solution on Any Processor Using Edge Impulse
Amir Sherman, Global Semiconductor Business Development Director, Edge Impulse

11:25 am - 11:55 am — E2W05
Using a Neural Processor for Always-Sensing Cameras
Sharad Chole, Chief Scientist and Co-Founder, Expedera

12:00 pm - 12:30 pm — T1W06
Building Accelerated GStreamer Applications for Video and Audio AI
Abdo Babukr, Accelerated Computing Consultant, Wave Spectrum

12:00 pm - 12:30 pm — T2W06
A Survey of Model Compression Methods
Rustem Feyzkhanov, Staff Machine Learning Engineer, Instrumental

12:00 pm - 12:30 pm — BW06
Using Computer Vision to Modernize Logistics
Sam Lurye, Founder and CEO, Kargo

12:00 pm - 12:30 pm — E1W06
Intensive In-Camera AI Vision Processing
Yaniv Iarovici, Head of Business Development, Hailo

12:00 pm - 12:30 pm — E2W06
State-of-the-Art Model Quantization and Optimization for Efficient Edge AI
Hyunjin Kim, Senior Staff Engineer, DEEPX

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

1:30 pm - 2:00 pm — T1W07
Developing a Computer Vision System for Autonomous Satellite Maneuvering
Andrew Harris, Spacecraft Systems Engineer, SCOUT Space

1:30 pm - 2:35 pm — T2W07
Practical Approaches to DNN Quantization
Dwith Chenna, Senior Embedded DSP Engineer, Computer Vision, Magic Leap

1:30 pm - 2:35 pm — FW07
Multiple Object Tracking Systems
Javier Berneche, Senior Machine Learning Engineer, Tryolabs

1:30 pm - 2:00 pm — BW07
ADAS and AV Sensors: What's Winning and Why?
Ian Riches, Vice President of the Global Automotive Practice, TechInsights

1:30 pm - 2:00 pm — E1W07
Bring Your ML Models to the Edge with the DeGirum DeLight Cloud Platform
Shashi Chilappagari, Co-Founder and Chief Architect, DeGirum

1:30 pm - 2:00 pm — E2W07
Processing Raw Images Efficiently on the MAX78000 Neural Network Accelerator
Gorkem Ulkar, Principal ML Engineer, Analog Devices

1:30 pm - 2:00 pm — E3W07
Sparking the Next Generation of Arm-Based Cloud-Native Smart Camera Designs
Stephen Su, Senior Product Manager, Arm

2:05 pm - 2:35 pm — T1W08
Open Standards Unleash Hardware Acceleration for Embedded Vision
Neil Trevett, President, The Khronos Group / Vice President of Developer Ecosystems, NVIDIA

2:05 pm - 2:35 pm — BW08
ADAS: What's Working and What Isn't? Junko Yoshida Interviews Ian Riches
Junko Yoshida, Editor-in-Chief, Ojo-Yoshida Report
Ian Riches, Vice President of the Global Automotive Practice, TechInsights

2:05 pm - 2:35 pm — E1W08
Device Differentiation Via a Low-Power, AI-Driven Media Processing Unit
Petronel Bigioi, CTO, Xperi

2:05 pm - 2:35 pm — E2W08
Streamlining Embedded Vision Development with Smart Vision Components
Selena Schwarm, Team Lead, Global Partner Management, Basler

2:05 pm - 2:35 pm — E3W08
A New, Open-Standards-Based, Open-Source Programming Model for All Accelerators
Charles Macfarlane, Chief Business Officer, Codeplay Software

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2:40 pm - 3:10 pm — T1W09
The OpenVX Standard API: Computer Vision for the Masses
Kiriti Nagesh Gowda, SMTS Engineer, AMD / Chair of OpenVX Working Group, The Khronos Group

2:40 pm - 3:10 pm — T2W09
Doing More with Less: Optimizing Image Quality and Stereo Depth at the Edge
Travis Davis, Delivery Manager, Automation and Autonomy Core, John Deere
Tarik Loukili, Technical Lead, Automation and Autonomy Applications, John Deere

2:40 pm - 3:10 pm — FW09
Introduction to Semantic Segmentation
Sébastien Taylor, Vice President of Research and Development, Au-Zone Technologies

2:40 pm - 3:10 pm — E1W09
Fast-Track Design Cycles Using Lattice's FPGAs
Hussein Osman, Segment Marketing Director, Lattice Semiconductor

2:40 pm - 3:10 pm — E2W09
Battery-Powered Edge AI Sensing: A Case Study Implementing Low-Power, Always-On Capability
Peter Fenn, Director, Advanced Applications Group, Avnet

2:40 pm - 3:10 pm — E3W09
Efficiently Map AI and Vision Applications onto Multi-Core AI Processors Using CEVA's Parallel Processing Framework
Rami Drucker, Machine Learning Software Architect, CEVA

3:10 pm - 4:15 pm Break - Be sure to visit the Exhibit Hall!   **3:10 pm - 4:15 pm Break - Be sure to visit the Exhibit Hall!**

4:15 pm - 4:45 pm — T1W10
Making Sense of Sensors: Combining Visual, Laser and Wireless Sensors to Power Occupancy Insights for Smart Workplaces
Rakshit Agrawal, Vice President of Research and Development, Camio

4:15 pm - 4:45 pm — T2W10
Next-Generation Computer Vision Methods for Automated Navigation of Unmanned Aircraft
Julie Buquet, Applied Research-Imaging/AI, Immervision

4:15 pm - 5:20 pm — FW10
Introduction to Modern LiDAR for Machine Perception
Robert Laganière, Professor, University of Ottawa / CEO, Sensor Cortek

4:15 pm - 4:45 pm — E1W10
Can AI Solve the Low Light and HDR Challenge?
Oren Debbi, CEO, Visionary.ai

4:15 pm - 4:45 pm — E2W10
Five Things You Might Overlook on Your Next Vision-Enabled Product Design
Phil Lapsley, Co-Founder and Vice President, BDTI

4:15 pm - 4:45 pm — E3W10
Introducing the i.MX 93: Your "Go-To" Processor for Embedded Vision
Srikanth Jagannathan, Product Manager, NXP Semiconductors

4:50 pm - 5:20 pm — T1W11
Sensor Fusion Techniques for Accurate Perception of Objects in the Environment
Baharak Soltanian, Vice President of Research and Development, Sanborn Map Company

4:50 pm - 5:55 pm — BW11
Vision Tank Start-Up Competition
GMAC Intelligence .... Amit Mate
Lemur Imaging .... Noman Hashim
Optimizing Mind .... Tsvi Achler
Parrots .... David Hojah
ProHawk Technology .... Robert Brown
Vision Tank Judges:
John Feland, Forrest Iandola, Vin Ratford, Shweta Shrivastava

Event Guide Addendum

Welcome to the 2023 Embedded Vision Summit!

The following program and exhibit changes occurred after the Event Guide went to print:

SESSIONS

We are pleased to announce the panelists for the Wednesday General Session, 9:30 am - 10:00 am:

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

Moderator:
Sally Ward-Foxton, Senior Reporter, *EE Times*

Panelists:
Greg Kostello, CTO and Co-Founder, Huma.AI

Roland Memisevic, Senior Director, Qualcomm AI Research

Vivek Pradeep, Partner Research Manager, Microsoft

Steve Teig, CEO, Perceive

Yoav Banin (Chief Product and Business Development Officer, Nauto) replaces Stefan Heck as speaker in "Tracking and Fusing Diverse Risk Factors to Drive a SAFER Future" (BT09) on Tuesday, 4:15 pm - 4:45 pm.

Amol Borkar (Product Marketing Director, Cadence) replaces Pulin Desai as speaker in "Tensilica Processor Cores Enable Sensor Fusion for Robust Perception" (E2T10) on Tuesday, 4:50 pm - 5:20 pm.

"Device Differentiation Via a Low-Power, AI-Driven Media Processing Unit" (E1W08) by Petronel Bigioi (Xperi) on Wednesday, 2:05 pm - 2:35 pm has been *canceled*.

"Using Computer Vision to Modernize Logistics" (BW06) by Sam Lurye (Kargo) on Wednesday, 12:00 pm - 12:30 pm has been *canceled*.

NEW EXHIBITORS

Deci will be exhibiting in the Technology Exhibits, Booth 715.

Tenyks will be exhibiting in the Technology Exhibits, Booth 814.

SPEAKER OFFICE HOURS

Chat with selected speakers in the Speaker Square located in the Exhibit Hall.

TUESDAY

1:30 pm - 2:15 pm
Kristen Grauman (University of Texas at Austin / Facebook AI Research)
    Topic: First-person video and multimodal perception

2:30 pm - 3:15 pm
Susan Kennedy (Santa Clara University)
    Topic: Bias and ethics

3:30 pm - 4:15 pm
Pete Warden (Useful Sensors)
    Topic: Enabling edge AI everywhere

4:30 pm - 5:15 pm
Todd Poole (HPE Pathfinder)
    Topic: Venture capital

WEDNESDAY

10:30 am - 11:15 am
Sally Ward-Foxton (*EE Times*)
Greg Kostello (Huma.AI)
Roland Memisevic (Qualcomm AI Research)
Vivek Pradeep (Microsoft)
Steve Teig (Perceive)
    Topic: Generative AI

11:30 am - 12:15 pm
Alex Thaman (Red Cell Partners)
    Topic: Bias in computer vision systems

1:30 pm - 2:15 pm
Chris Rowen (Cisco)
    Topic : Machine learning for video

2:30 pm - 3:15 pm
Jason Lavene (Keurig Dr Pepper)
    Topic: Developing low-cost vision systems

3:30 pm - 4:15 pm
Ian Riches (TechInsights)
    Topic: Automotive markets and technologies