How to Participate

Speaker Questions
Please submit speaker questions at any time using the **Zoom Q&A button** (not Zoom chat). During the panel, we will put as many questions as possible to the speakers

Help with Meeting Logistics
Please use Zoom Chat for logistical questions or if you are having issues with Zoom

Recording and Slides
We are recording this webinar and will publicly post the slides and video at the Forum Home Page at https://www.khronos.org/machine-learning

Survey
To help us design future Khronos Machine Learning Forum events, we appreciate you completing the short survey form that we will distribute after the session
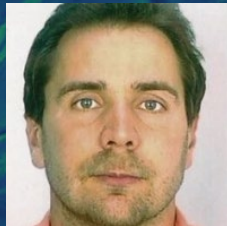
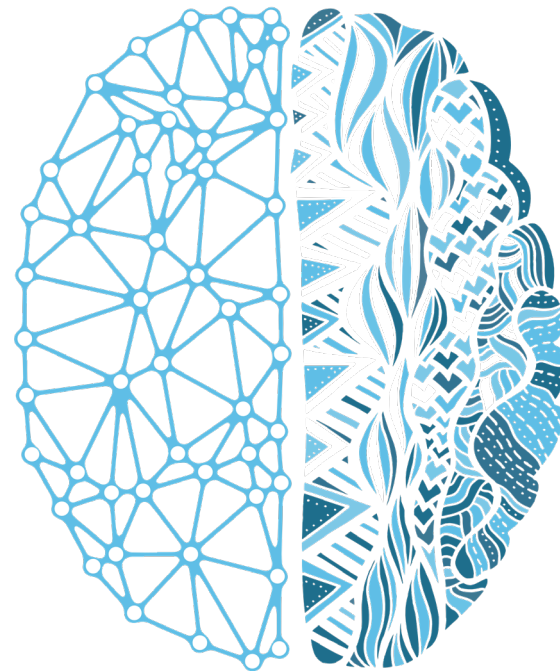# Introduction to the Khronos Machine Learning Forum

Neil Trevett
Khronos President

Khronos Open Standards Mission

Founded in 2000
~200 Members ~ 40% US, 30% Europe, 30% Asia

Open, royalty-free interoperability standards to harness the power of GPU, XR and multiprocessor hardware

3D graphics, augmented and virtual reality, parallel programming, inferencing and vision acceleration
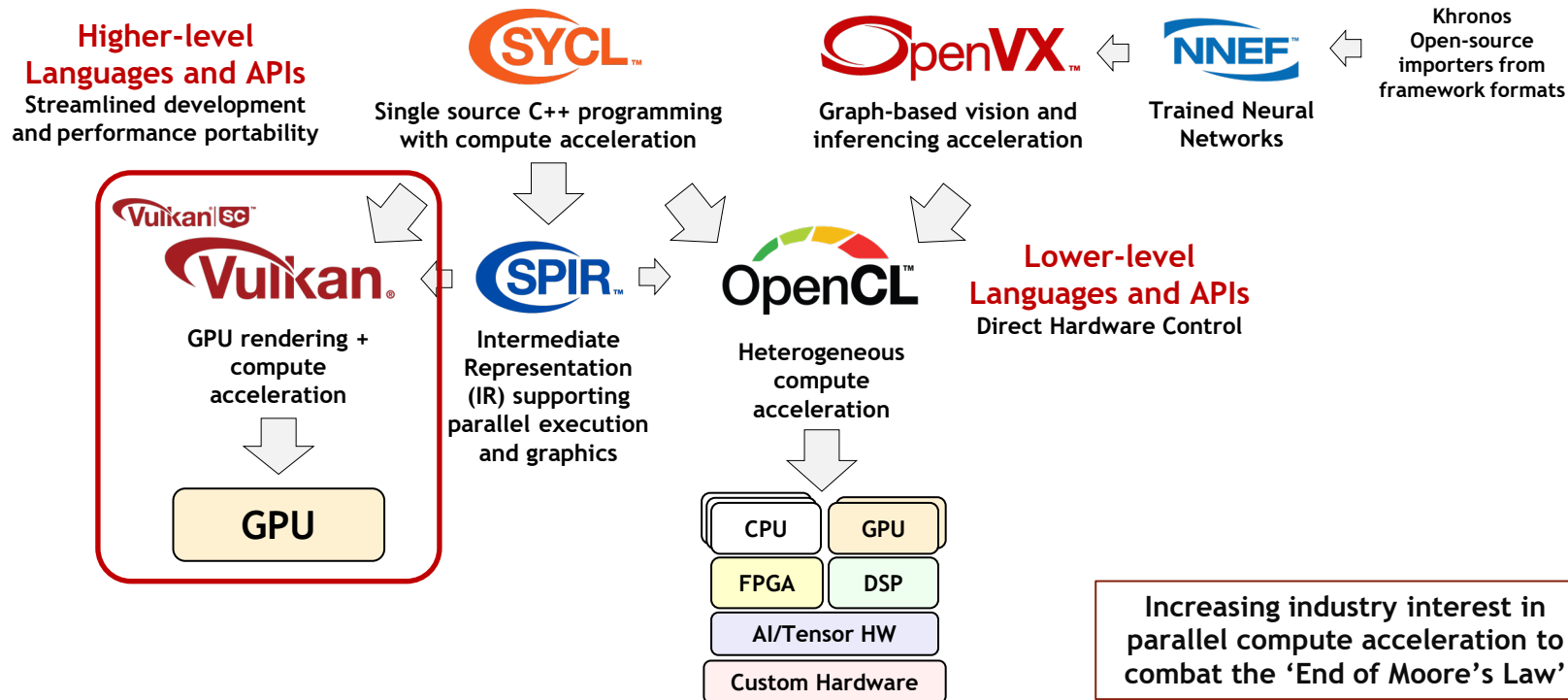
Non-profit, member-driven standards organization, open to any company

Proven multi-company governance and Intellectual Property Framework

Khronos Compute Acceleration Standards

SYCL

Single source C++ programming with compute acceleration

OpenVX

Graph-based vision and inferencing acceleration

NNEF

Trained Neural Networks

Khronos Open-source importers from framework formats

Higher-level Languages and APIs

Streamlined development and performance portability

Lower-level Languages and APIs

Direct Hardware Control

Vulkan SC

Vulkan

GPU rendering + compute acceleration

GPU

SPIR

Intermediate Representation (IR) supporting parallel execution and graphics

OpenCL

Heterogeneous compute acceleration

CPU | GPU
FPGA | DSP
AI/Tensor HW
Custom Hardware

Increasing industry interest in parallel compute acceleration to combat the 'End of Moore's Law'
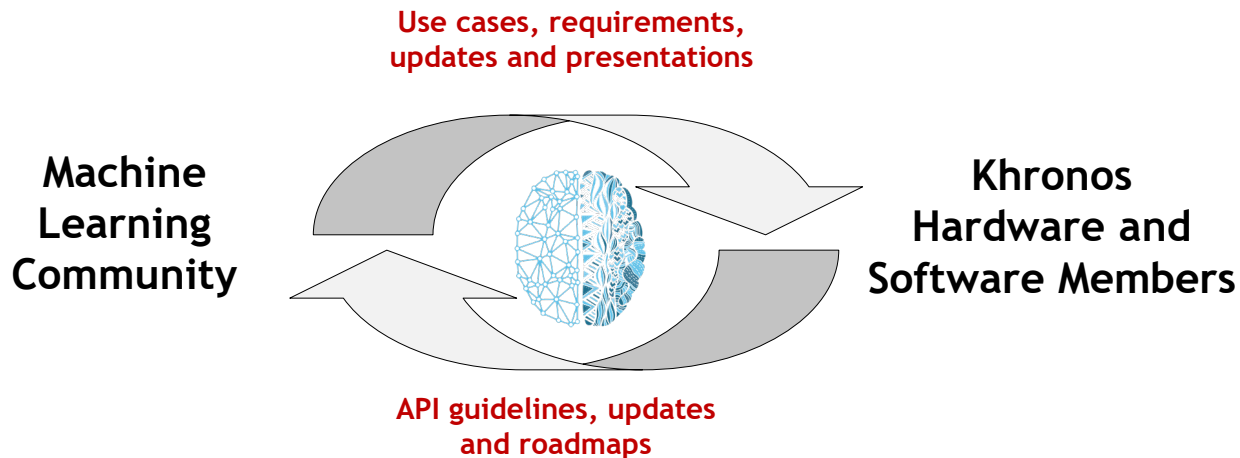
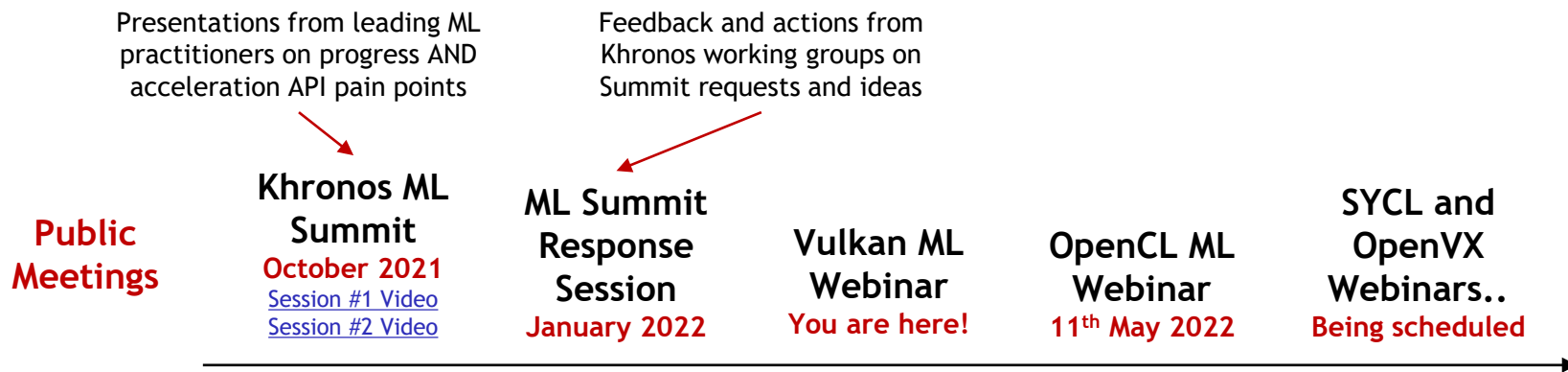KHRONOS GROUP

Khronos Machine Learning Forum

Productive communication and cooperation on ML Acceleration

... between Machine Learning *hardware* and *software* communities

Forum is free to join, no NDA or IP commitments

Dedicated meetings, email and slack channels for group communication

Use cases, requirements,
updates and presentations

Machine
Learning
Community

Khronos
Hardware and
Software Members

API guidelines, updates
and roadmaps

Machine Learning Forum Meeting Series

Presentations from leading ML practitioners on progress AND acceleration API pain points

Feedback and actions from Khronos working groups on Summit requests and ideas

Public Meetings

Khronos ML Summit
October 2021
Session #1 Video
Session #2 Video

ML Summit Response Session
January 2022

Vulkan ML Webinar
You are here!

OpenCL ML Webinar
11th May 2022

SYCL and OpenVX Webinars..
Being scheduled

Forum Member Meetings will start in July 2022
Input and requests for specific topics welcome!

https://www.khronos.org/machine-learning
has all the information you need to join!

Khornos Machine Learning Resources

- **Khronos Machine Learning Forum**
  - https://www.khronos.org/machine-learning

- **Khronos homepage for all Khronos Standards**
  - https://www.khronos.org/

- **OpenCL Resources and C++ for OpenCL documentation**
  - https://github.com/KhronosGroup/OpenCL-Guide
  - https://www.khronos.org/opencl/assets/CXX_for_OpenCL.html

- **OpenVX Tutorial, Samples and Sample Implementation**
  - https://github.com/rgiduthuri/openvx_tutorial
  - https://github.com/KhronosGroup/openvx-samples
  - https://github.com/KhronosGroup/OpenVX-sample-impl/tree/openvx_1.3

- **NNEF Tools**
  - https://github.com/KhronosGroup/NNEF-Tools

- **SYCL Resources**
  - http://sycl.tech

- **SPIR-V User Guide**
  - https://github.com/KhronosGroup/SPIRV-Guide
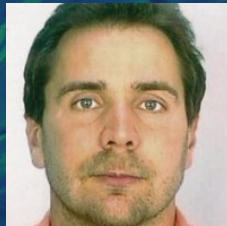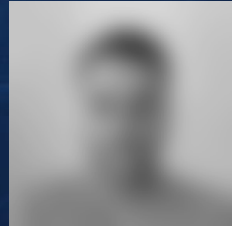
Accelerating Machine Learning with Vulkan
5 May 2022

Thank you!

https://www.khronos.org/events/accelerating-machine-learning-with-vulkan