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Engagement

Author: tariq_ahmad
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- vipinrai
- arky

This event occurred in the past.

Build Powerful Wildlife & Livestock Trackers with OpenMV and Edge Impulse

Watch On-Demand

When

12 May 2021 11:00 AM to 12:00 PM Central Time (US & Canada)

Where

On24

Event Type

6 (On24)



This webinar has been moved to Wednesday May 12th at 11:00am CT / 4:00pm GMT.

For humans, sight is one of our most valued senses. Despite this, virtually all embedded devices are still blind, having to rely on other sensors to recognize events that might be easily perceived visually. With this in mind, Edge Impulse has added computer vision, allowing any embedded developer to collect image data from the field, quickly build classifiers to interpret the world and deploy models back to production low-power, inexpensive devices. Edge Impulse enables low power, yet high-performance computer vision for any device with at least a Cortex-M7 or equivalent microcontroller. This allows any embedded developer to collect image data from the field, quickly build classifiers to interpret the world and deploy models back to production low-power, inexpensive devices. This means that a whole new class of devices can now accurately predict what they're seeing - enabling great opportunities from predictive maintenance ('does my machine look abnormal') and industrial automation ('are labels placed correctly on these bottles') to wildlife monitoring ('have we seen any potential poachers').

In this workshop, Kwabena Agyeman and Louis Moreau from Edge Impulse will show attendees how to quickly train a TensorFlow Lite Convolutional Neural Network (CNN) for image classification with Thermal Imaging using an OpenMV Cam and Edge Impulse, in particular, for wildlife conservation efforts. Then deploy the CNN on an OpenMV Cam and have it running immediately. Finally, a live demo will show you how to easily control devices in the real-world.

What you will learn by attending:

- How to easily import an image dataset of animal classes and train models using Edge Impulse
- Deploy this custom CNN on an OpenMV Cam using the OpenMV IDE and to detect animal presence
- A live demo using OpenMV and Edge Impulse



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The Presenter:



Kwabena Agyeman, President & Co-Founder at OpenMV LLC

Founded OpenMV, a company dedicated to making machine vision on microcontrollers easy. The OpenMV Cam makes it possible for students and hobbyists to build simple robots that can track colored objects or faces. For example, with the OpenMV Cam and a Nerf Gun engineering major college students can build a color tracking turret for a mechatronics capstone project. I'm interested in applications involving data processing like machine learning, data analytics, or computer vision.



Louis Moreau, User Success Engineer at Edge Impulse

Louis started his career developing a low-power and GPS-based IoT solution to protect rhinos in an African conservancy. He is now working at Edge Impulse as a User Success Engineer.

- openmv
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tahmad78 14 comments 1 member is here

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Top Comments

mp2100 *over 5 years ago* +2
First, thanks for the webinar. The concept of swapping the camera on the OpenMV H7 for a Flir infrared/heat camera is such a good one, when you're doing wildlife or human detection. Eliminate all the distractions...

viasov01 *over 5 years ago* +2
It was a very good webinar. It was more insightful for me as result of demo challenges. It provided additional insight on what can go wrong and what to do about it. Thank you for answering my questions...

viasov01 *over 5 years ago in reply to marcin-ch* +1
It requires more examples to make a model more accurate. I think if more images of a warm chair should be added to the training set to make the model more accurate. There are several other options to adjust...

Oldest **Best** Newest

mp2100 *over 5 years ago*
First, thanks for the webinar. The concept of swapping the camera on the OpenMV H7 for a Flir infrared/heat camera is such a good one, when you're doing wildlife or human detection. Eliminate all the distractions in the photo, go for heat.

I'd like to emphasize a comment made during this webinar. Doing a live demo is hard, and not everything works right. The important thing (which the presenters did) is to explain why results were not perfect and how to make the results better. A good learning opportunity.

marcin-ch *over 5 years ago in reply to mp2100*
Demo issue, we all know that! :-)

However, let's assume human detection using infrared camera (as it was presented during the webinar), how to fight with objects generating some heat in field of view of the camera, but they are not human? How to organize the dataset to receive as high performance of the model as possible? During the webinar, there were few pictures with warm chair labeled as 'background' which made model confused and finally model received only ~50% accuracy.

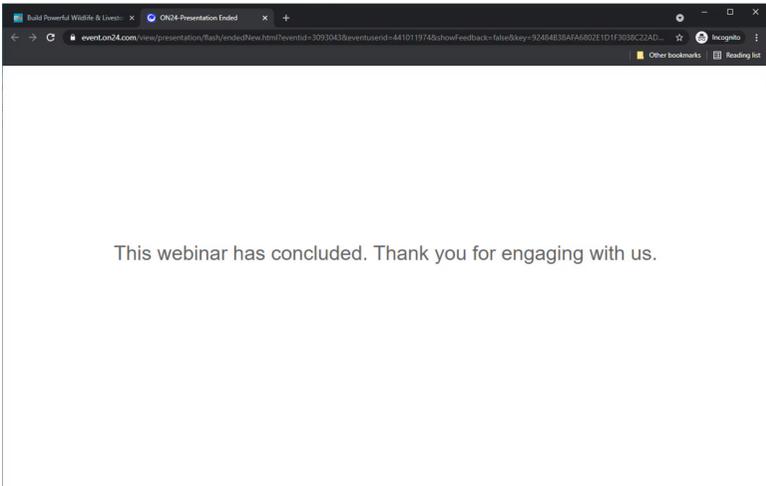
viasov01 *over 5 years ago in reply to marcin-ch*
It requires more examples to make a model more accurate. I think if more images of a warm chair should be added to the training set to make the model more accurate. There are several other options to adjust model with Edge Impulse too. It is possible to adjust network architecture and/or use anomaly detection. If you are interested in getting better models with ML I'll recommend to take Introduction to Embedded Machine Learning <https://www.coursera.org/lecture/introduction-to-embedded-machine-learning/getting-started-with-edge-impulse-Ahsv5>

viasov01 *over 5 years ago*
It was a very good webinar. It was more insightful for me as result of demo challenges. It provided additional insight on what can go wrong and what to do about it. Thank you for answering my questions during the webinar!

And kudos to the presenter for being calm and humorous during time when The Demo Gods were not on your side!

Sergey

jmoengineer *over 5 years ago in reply to viasov01*
Yeah, I was able to get to it to do the same thing:



I see this in the Firefox DevTool console:

DevTools failed to load SourceMap: Could not load content for https://event.on24.com/view/presentation/flash/browser.js.map: HTTP error: status code 404, net::ERR_HTTP_RESPONSE_CODE_FAILURE

viasov01 *over 5 years ago in reply to jmoengineer*
It is working for me on Chrome. May be try clean browser cache / open incognito window?

blb *over 5 years ago*
I was unable to attend the webinar and was hoping to see the recording of it. There is a link to "View Event Recording" but when I click on it I get to a page that says the event has ended. 😞 Any chance this can be resolved?

Thanks very much,
BB

tariq_ahmad *over 5 years ago in reply to blb*
Hi blb .

I just tested and its working for me. Could you try again and let me know if you are able to get in?

blb *over 5 years ago in reply to tariq_ahmad*
Hi Tariq,

I've tried it again, using both Firefox and Chrome and it pops up like its going to play, but the window then immediately changes to a window that says "This webinar has concluded. Thank you for engaging with us."

Thanks,
blb

austingreene *over 5 years ago in reply to blb*
Also encountering this same issue. Tried clearing cache and no luck.

tariq_ahmad *over 5 years ago*
I'm not able to replicate the issue on my end and I can see people have been able to view the OnDemand. I'm going to contact support as I have no idea what that error message could be. Checked all the settings and everything appears to be normal. In the meantime, could you try clearing the cache folder as Sergey suggested?

jmoengineer *over 5 years ago in reply to tariq_ahmad*
This does not seem to happen all of the time. When I first logged in a few minutes ago using Firefox in a few minutes ago and clicked on the link for the Webinar recording, it opens a new tab I got the screen where it says "The Webinar has concluded". I went back to the main Webinar page and did a refresh on the page and then the webinar tab opened with the video and such. One thing I did notice, after it opens the webinar recording tab, the link to the recording goes away on the main webinar page. .

blb *over 5 years ago in reply to tariq_ahmad*
I tried it again on Chrome and it worked! Still failing on Firefox.

Thanks!

atecnologia *over 5 years ago*
It's not working in chrome, i just try and I can not see the content. Any help so far?