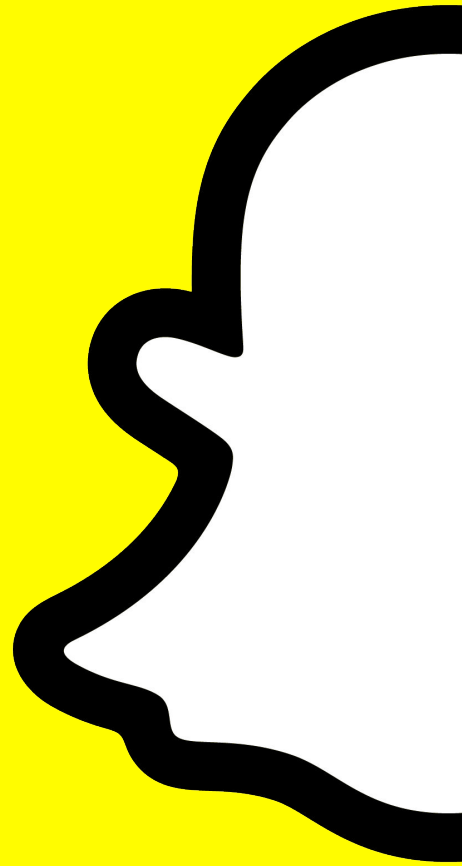


Snap AR Challenge

[AI Hack Tunisia 22](#)



Snap AR Challenge @ AI HACK



Build sophisticated AR solutions with Lens Studio's powerful suite of capabilities

We invite creators and developers to build next generation augmented reality experiences using [Lens Studio's](#) advanced suite of capabilities. To be eligible for winning, your lens submission must include a SnapML model. Creating your own ML models will grant you bonus points.

WHAT TO BUILD

Use the power of Lens Studio to build AR experiences around at least one of the UNICEF 17 sustainable goals :



1. No Poverty
2. Zero Hunger
3. Good Health and Well-being
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
9. Industry, Innovation and Infrastructure
10. Reduced Inequality
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace and Justice Strong Institutions
17. Partnerships to achieve the Goal

Snap AR Challenge - Online Track



Register

Create

Submit

Win

Eligibility:

- Are you above **18 years** old?
- Do you live or resident of **Middle East or Africa**?
- To be eligible for winning, your lens submission must include a SnapML model

- You have to create AR Experiences built on **Lens Studio** only.
- Only Lenses **published** or updated after **August 20** are eligible.

- You can submit AR experiences using **existing SnapML** and AI features in Lens Studio.
- Or build **your own** new ML models and use them in your AR experiences.

- Creating your own ML models will grant you **extra points**.
- Build **unique** new ideas.
- Build lenses that can be used more than once.

How:

- Get your **Creator Profile Link**:
 - You need Lens studio: [guide here](#).
 - Pair your Snapchat account with Lens Studio: [guide here](#)
 - Go to : [My Lenses page](#)
 - Click on your profile picture
 - Click on : View Creator Profile
 - Copy the URL to put in the form.
- Fill out the **Registration form**:
<https://forms.gle/SbsuspqMwGYRH6Yo7>

- Start creating on Lens Studio.
- If you haven't already: Download and Start with Lens studio: [guide here](#).

- **Submit** your Lens: [guide here](#).
- Add "aihack" inside "**Lens Tags**"
- Once your Lens is approved and public, copy the **Lens Link**:
 - Go to: [My Lenses page](#)
 - Click on the link icon of your Lens to copy the URL
- Fill the **Submission form**:
<https://forms.gle/1WTU1pvqDheRZREKA>
- Create more more Lenses and submit !

- The more Lenses you submit the higher your chances of winning will be.

When:

- Registration **opens** on: **August 20**
- Registration **closes** on: **August 30**

- Before August 30

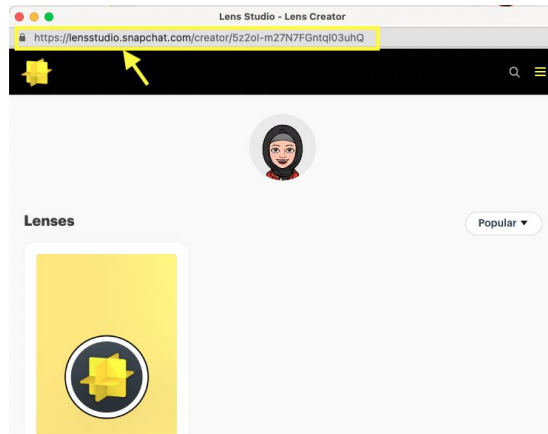
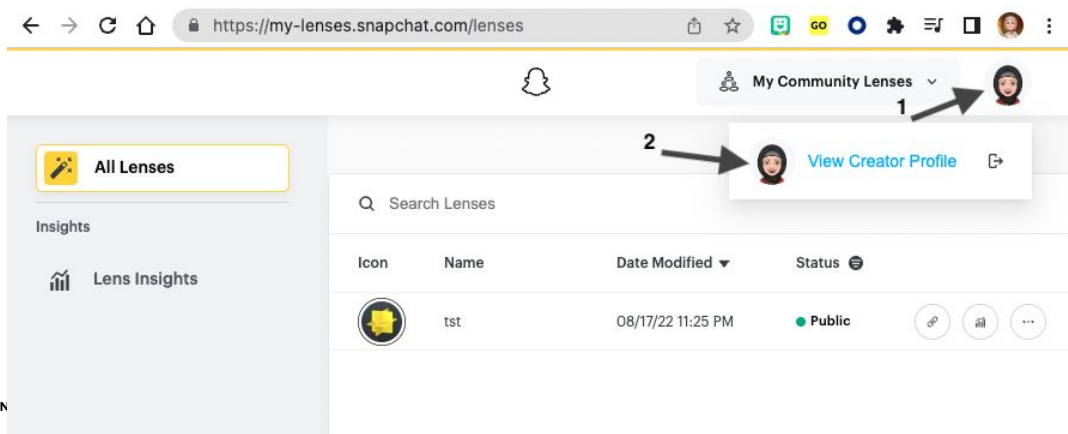
- Before August 30

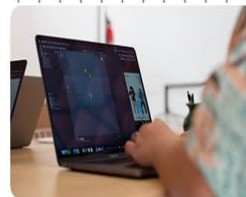
- Winners will be announced during the **AI Hack closing Ceremony on August 31st**.



Make a creator profile on Lens Studio

1. Download Lens Studio from here:
<https://ar.snap.com/download>
2. Pair your Snapchat account with Lens Studio:
<https://docs.snap.com/lens-studio/references/guides/general/pairing-to-snapchat/>
2. Get your Creator Profile Link:
 - a. Go to: <https://my-lenses.snapchat.com/lenses>
 - b. Click on your profile picture
 - c. Click on : View Creator Profile
 - d. Copy the URL to put in the form.





Get inspired from previous hackathons winners:

1. [SnapLensathon22](#)

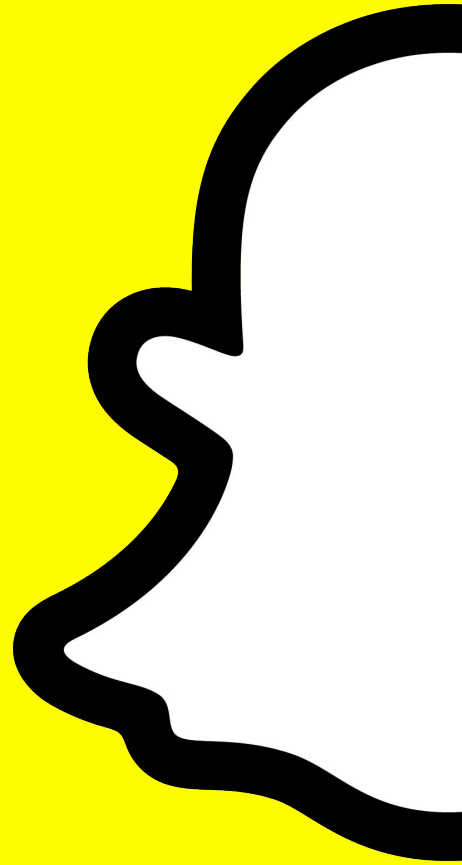
Lens Studio Resources:

1. [Video Tutorials](#)
2. [Courses](#)
3. [Resources](#)
4. Download [Lens Studio](#)
5. Meet some creators - [Lens Showcase](#)
6. Lens Studio [Submission Guidelines](#)

SnapML Resources:

1. [SnapML Overview](#)
2. [ML Lens Templates](#)
3. [Github Repository with SnapML training code](#)
4. [SnapML Workshop](#)
5. [SnapML Compatibility Sheet](#)
6. ML Frameworks Supported:
 - a. [Pytorch](#)
 - b. [Tensorflow](#)

SnapML



Existing SnapML Models and Templates

- SnapML Brings machine learning to the hands of the developers.
- SnapML enables you to bring in your own models and/or use templates to kick off your Lens development process.
- You can create using the existing Templates and included training code.

Training code included:

- Style Transfer
- Classification
- Object Detection
- Custom Segmentation
- Keyword Detection
- Image to Image Translation
- Multi Class Classification
(w/Quantization)

More Templates:

- Ground Segmentation
- Wrist Tracking
- Foot Tracking
- Multi Segmentation
- Change Eyebrows
- Face Mask Segmentation and Classification
- Beard Addition & Removal

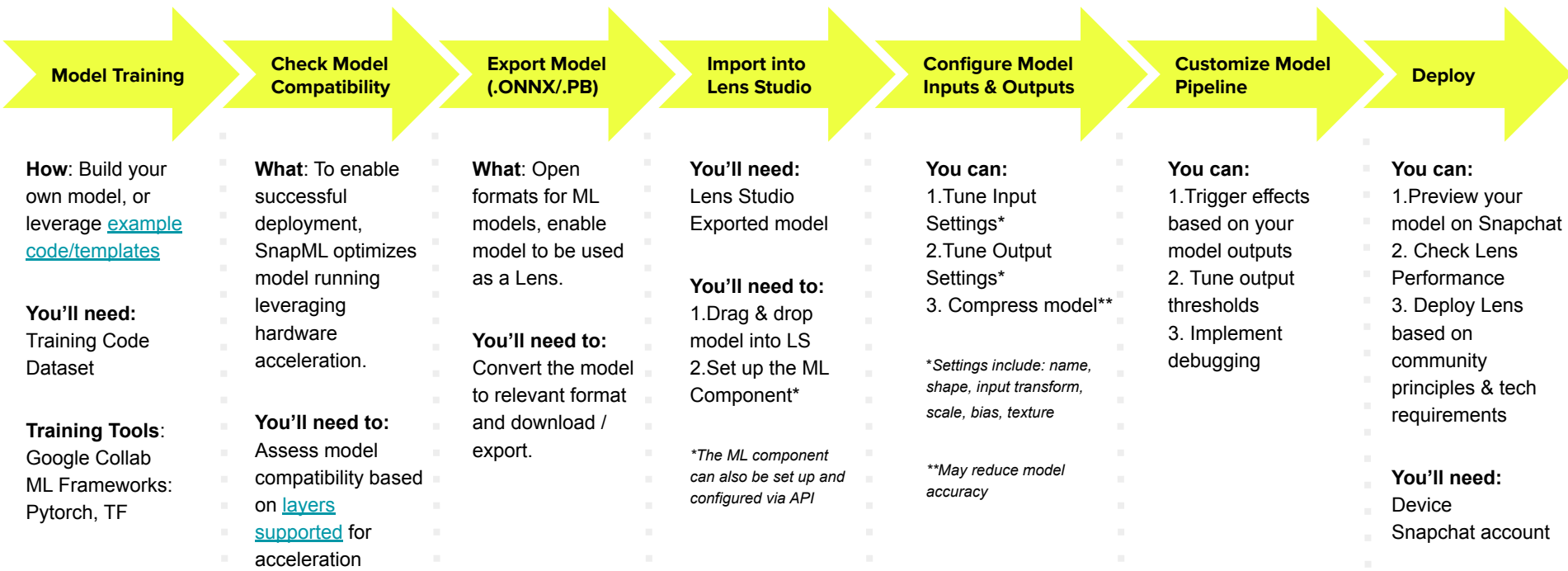


Difference Between Templates & Bringing Your Own Models

- Templates provide an easy and quick way to get started with pre-trained models that we have made available.
 - With ready available templates, most of your work happens within Lens Studio.
- However, you can train your own models and bring them on SnapML.



Getting started with SnapML



Model Training

How: Build your own model, or leverage [example code/templates](#)

You'll need:
Training Code
Dataset

Training Tools:
Google Collab
ML Frameworks:
Pytorch, TF

Check Model Compatibility

What: To enable successful deployment, SnapML optimizes model running leveraging hardware acceleration.

You'll need to:
Assess model compatibility based on [layers supported](#) for acceleration

Export Model (.ONNX/.PB)

What: Open formats for ML models, enable model to be used as a Lens.

You'll need to:
Convert the model to relevant format and download / export.

Import into Lens Studio

You'll need:
Lens Studio
Exported model

You'll need to:
1. Drag & drop model into LS
2. Set up the ML Component*

**The ML component can also be set up and configured via API*

Configure Model Inputs & Outputs

You can:
1. Tune Input Settings*
2. Tune Output Settings*
3. Compress model**

**Settings include: name, shape, input transform, scale, bias, texture*

***May reduce model accuracy*

Customize Model Pipeline

You can:
1. Trigger effects based on your model outputs
2. Tune output thresholds
3. Implement debugging

Deploy

You can:
1. Preview your model on Snapchat
2. Check Lens Performance
3. Deploy Lens based on community principles & tech requirements

You'll need:
Device
Snapchat account



SnapML Model Deployment

- SnapML cannot take in models as-is from Colab. You need to package up the model in a way that SnapML is able to recognize.
 - For **Pytorch models**, model export is pretty straightforward thanks to a good integration of **.onnx**.
 - Models built with **TensorFlow** should be converted to the **TensorflowLite** format before importing to Lens Studio. The TFLite converter can be used for this model conversion.
- **Quantization:**
 - SnapML also supports TensorFlow Lite 8-bit quantization.
 - Take a look at this [template](#) to get started using quantized models.

