

# Xailient Face Recognition and Object Detection Sales Kit for Ingenic T31 Chipset

## Overview

Xailient specializes in putting incredibly accurate AI on impossibly small low cost, low power devices. Our products make embedded-edge computer vision accurate, real-time and cost effective.

Xailient's Orchestrait™ platform is the world's first privacy-safe face recognition solution that uses state-of-the-art Edge AI to ensure full compliance with biometric data and privacy protection laws across all jurisdictions. Orchestrait™ enables AI features optimized for smart home camera devices such as video doorbells, indoor-outdoor cameras with no additional hardware upgrades.

Target applications include Smart Home, Home security and Access control Camera Products.



# AI Features and Functionality



## Face Recognition

- Can register up to 20 identities with 10 images per-identity
- Detects multiple faces and recognizes faces across various poses
- Operational distance up to 10 ft.
- Get smarter notifications of who is at your door
- Privacy-Safe Face recognition solution across various jurisdictions ( GDPR, CCPA, etc.)



## Pet Detection Coming soon

- Can detect multiple pets in FOV
- Can identify the following classes of animals: Dogs, Cats etc.
- Get smarter notifications when your pet or a stray animal is around your vicinity



## People Detection

- Can detect up-to 20 unique people across frames
- Detects greater than 10 ft distance
- Can detect in outdoor and low light conditions
- Get smarter notifications



## Package Detection Coming soon

- Detects and tracks multiple packages across frames
- Detects different types of packages – Boxes, envelopes etc.
- Detects up to 10 ft distance
- Can detect in outdoor and low light conditions
- Get Smarter notifications on package detection and removal



## Vehicle Detection

- Can detect multiple Vehicles in FOV
- Can identify following classes of vehicles: Cars, buses, 2-wheelers, trucks
- Get smarter notifications on identified and unidentified vehicles in your driveway

# Technical Feature Set

Biometrics	Spec	Value
	FAR (1:N)	Up to 0.001% *Tested against Labeled Faces in the wild
	Per Device	Unlimited Profiles
	Match Speed	< 2 sec
	Max Face Distance	3m / ~10ft from camera
	Multi-Face Detection	3 faces in the scene

Video Doorbell Hardware ( Included)	Spec	Value
	Camera Resolution	1920x1080
	FOV	160 degrees
	Motion Detection	Yes
	Image Compression	H.246 High profile constant bit rate
	Max Scene Luminence	100K ( Bright Sunny Day)
	IR Mode	Derived from Abode Video Doorbell

Processing Parameters	Spec	Value
	RAM Utilization	2 MB
	Flash Utilization	10 MB
	Inference Speed	700 ms

# Evaluate the Solution

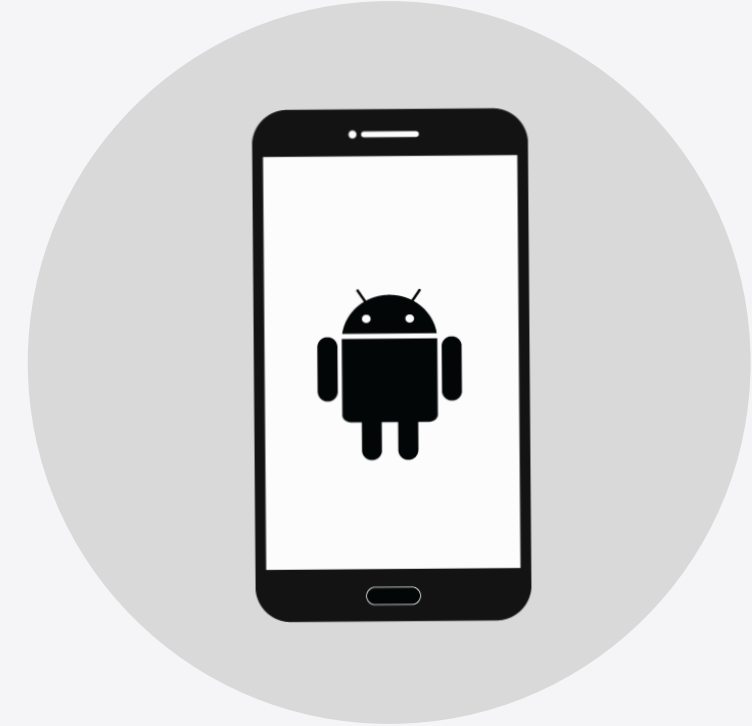
## Equipment Required



Video doorbell



USB-A to USB-C charging cable



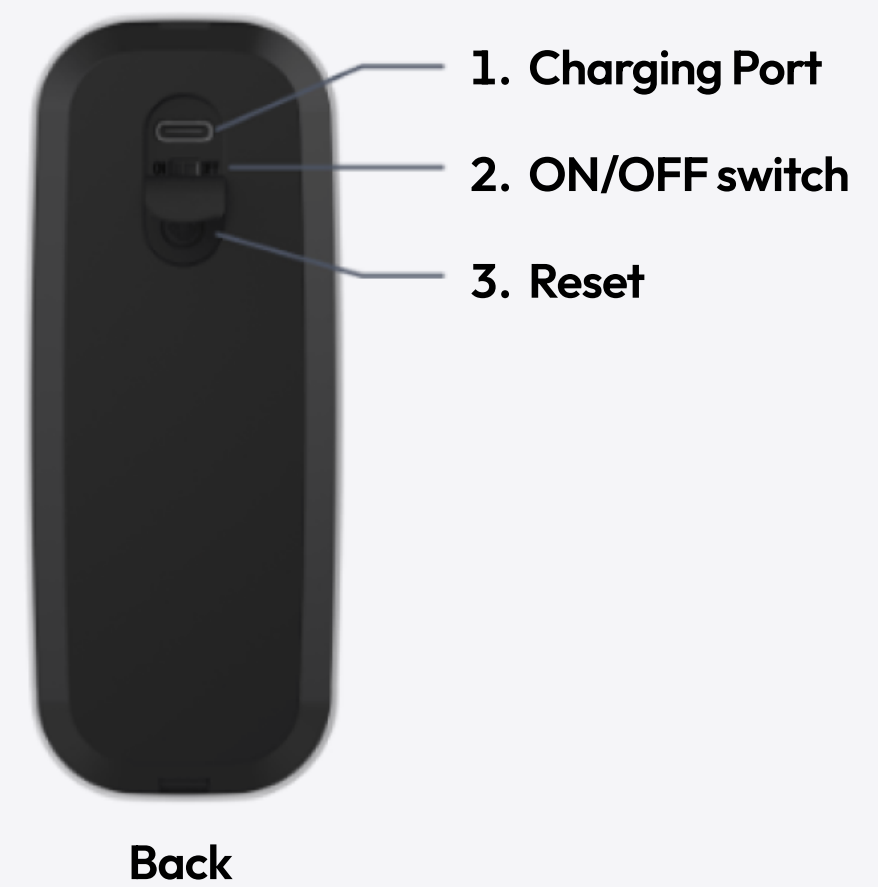
Android Cell phone device

## Hardware Setup

- Hardware comes with updated firmware
- Charge device

## Demo Setup (Only available on Android)

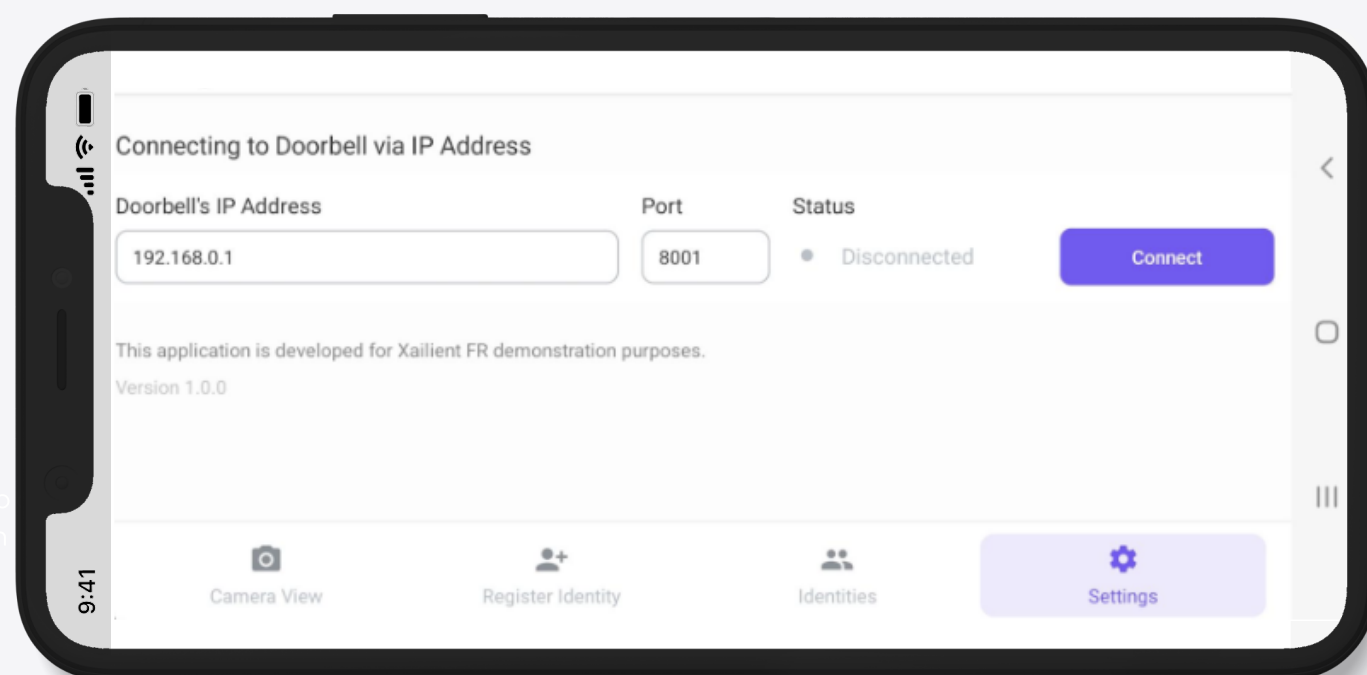
- 1 Install the Demo App ( click download APK file button)
- 2 Turn on the Demo Hardware
- 3 Connect the device to the HW Wifi (Start from Advanced Settings)
- 4 From your available Wifi networks select AP\_mode\_test\_7700
- 5 To unencrypt the selected Wifi network enter the password "11223344"



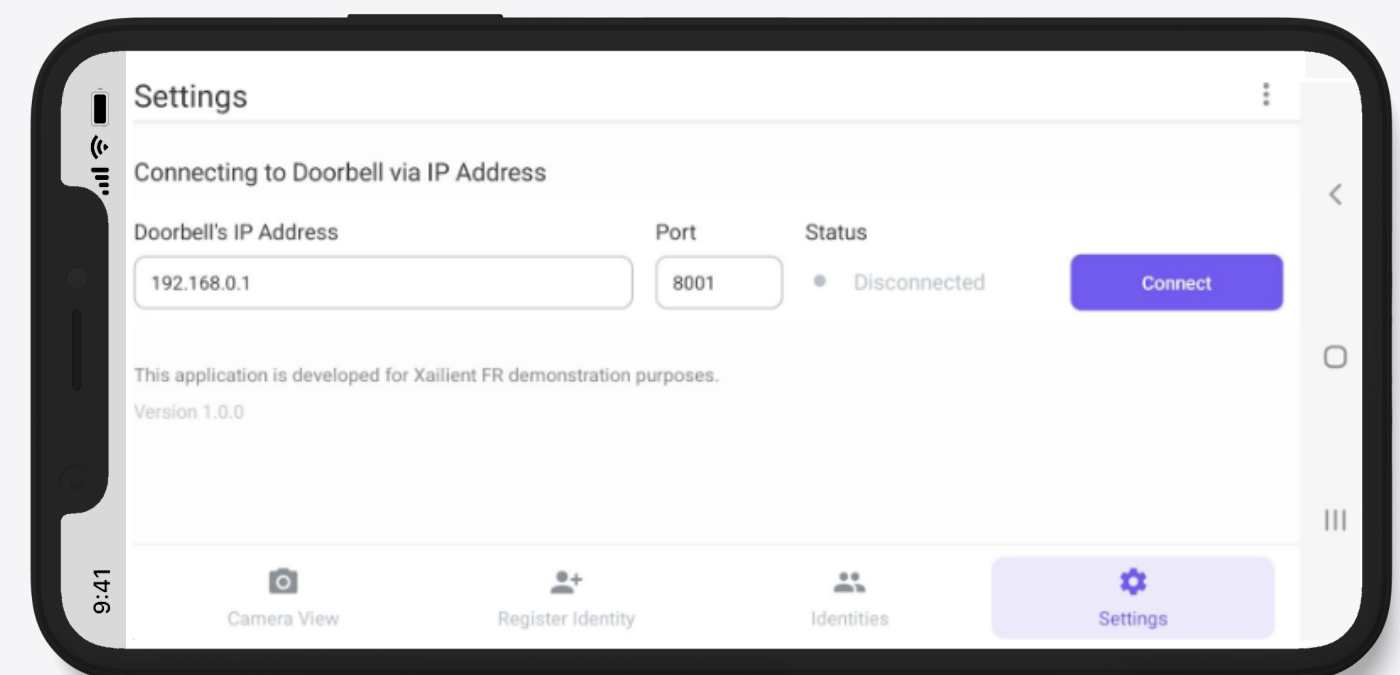
Back

Ensure the Doorbell is connected through the Settings tab

You can now explore the demo app using Live Camera view



\* For Video application

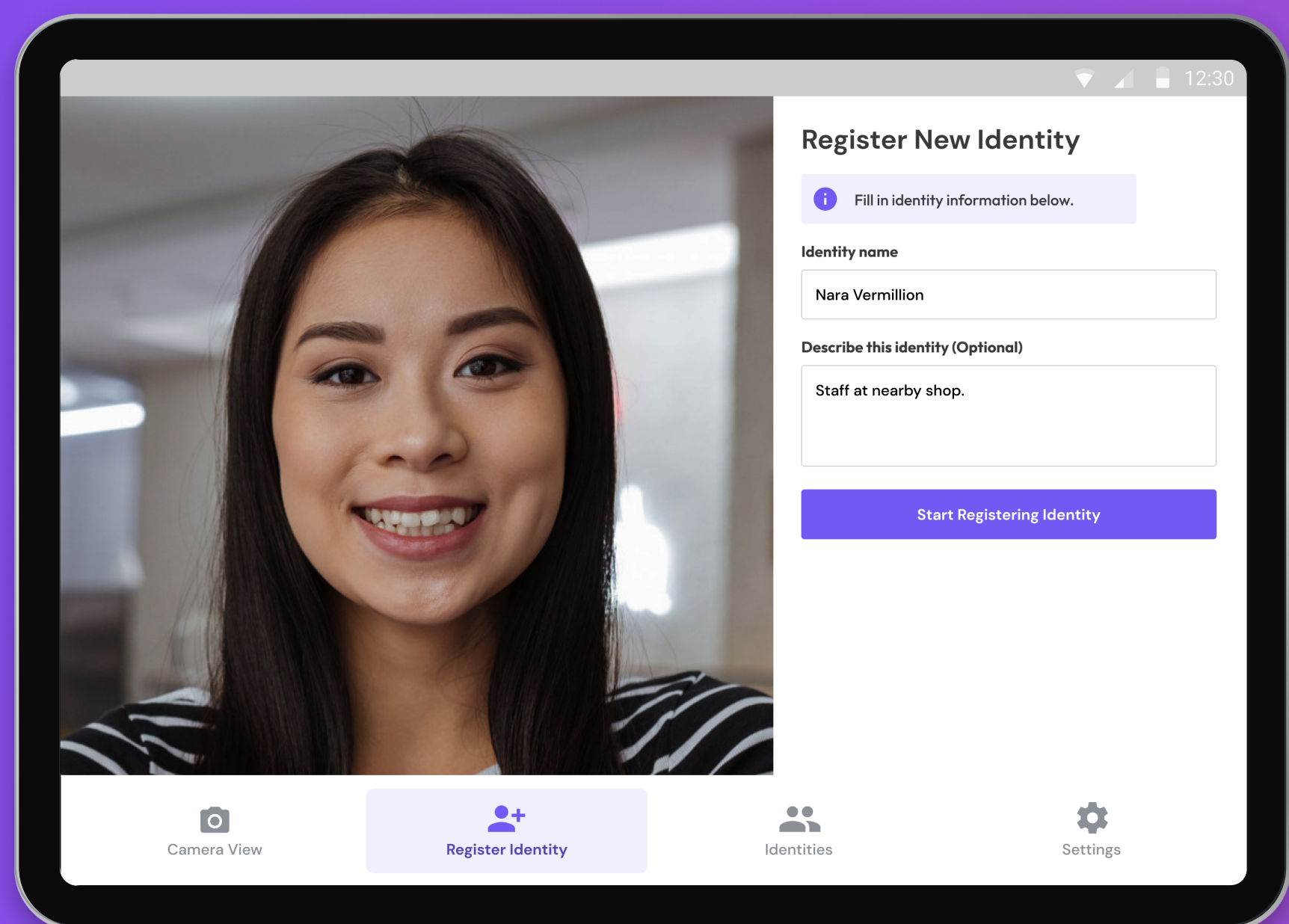


# Running the Demo App: Facial Recognition

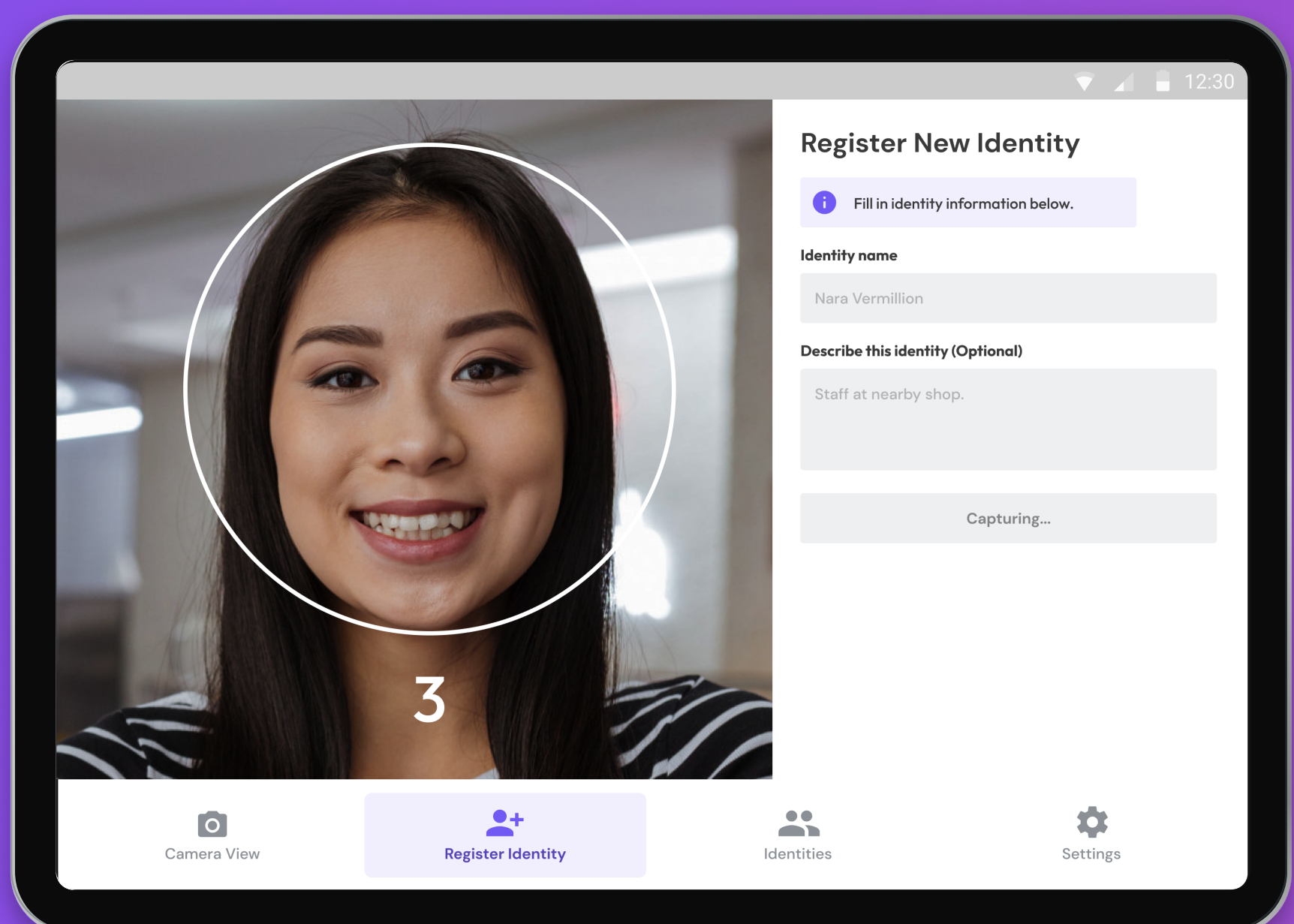
- Register an Identity
- De-Register or Remove Identity
- Vehicle Detection
- Package Detection
- Evaluation Guidelines

## Register an Identity

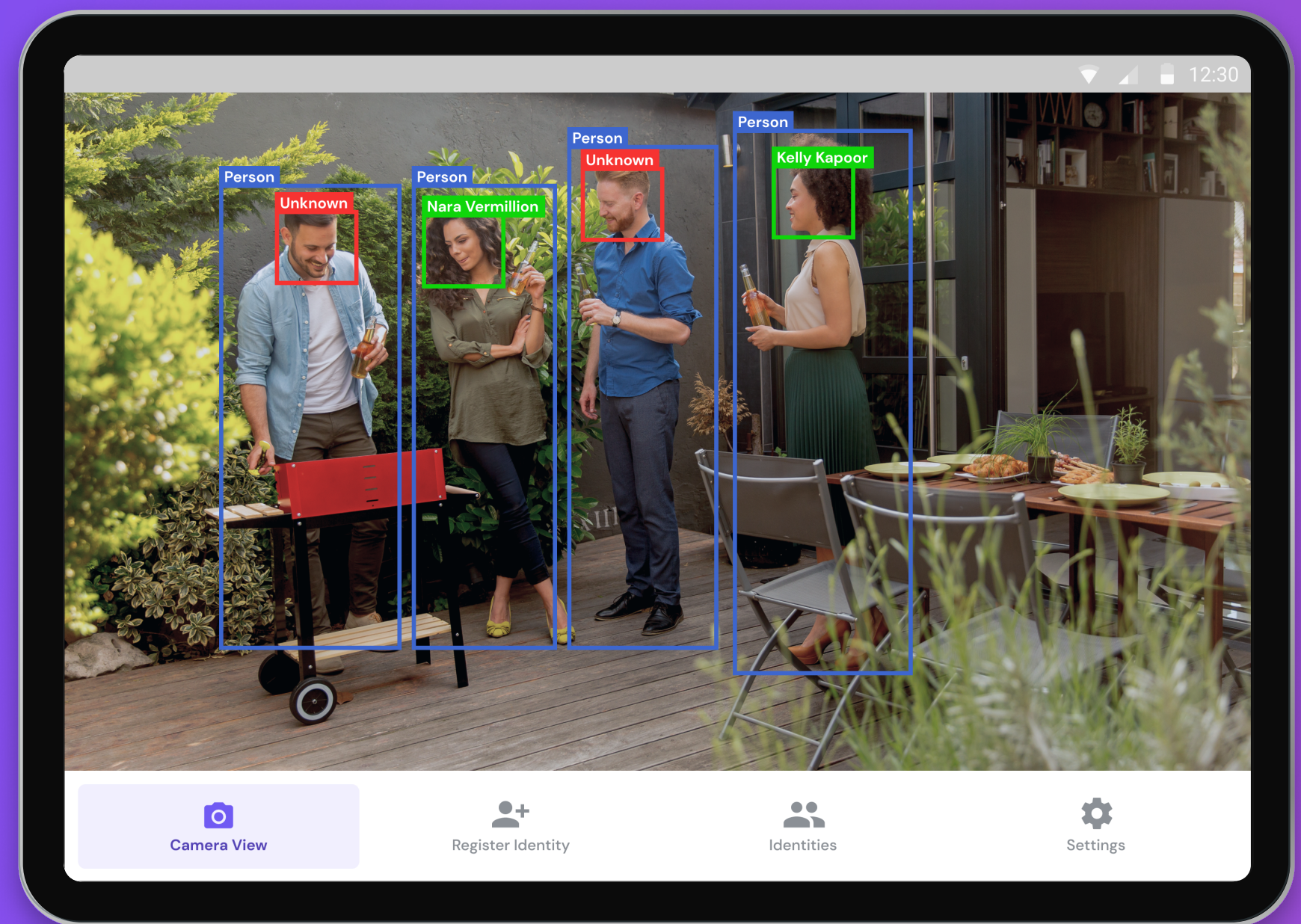
1. Select “Register New Identity”



2. Enter Identity name and description
3. Click “Start Registering Identity” button
4. Position face, wait 3 seconds for camera to capture image

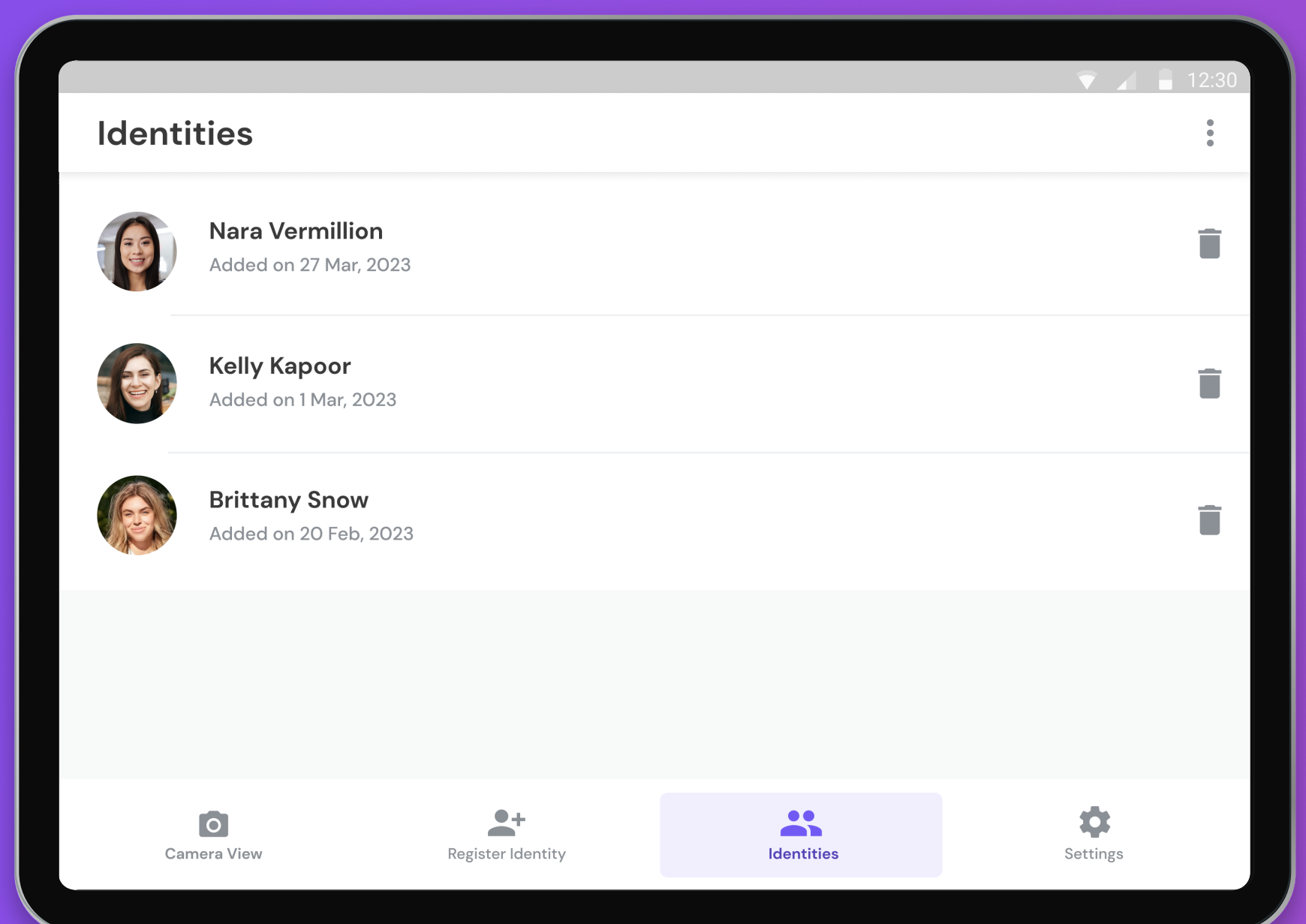


## 5. Identity will be registered



# De-Register or Remove Identity

1. Click Identities tab
2. Select which Identity to de-register or remove and click trash icon



○ Register an Identity

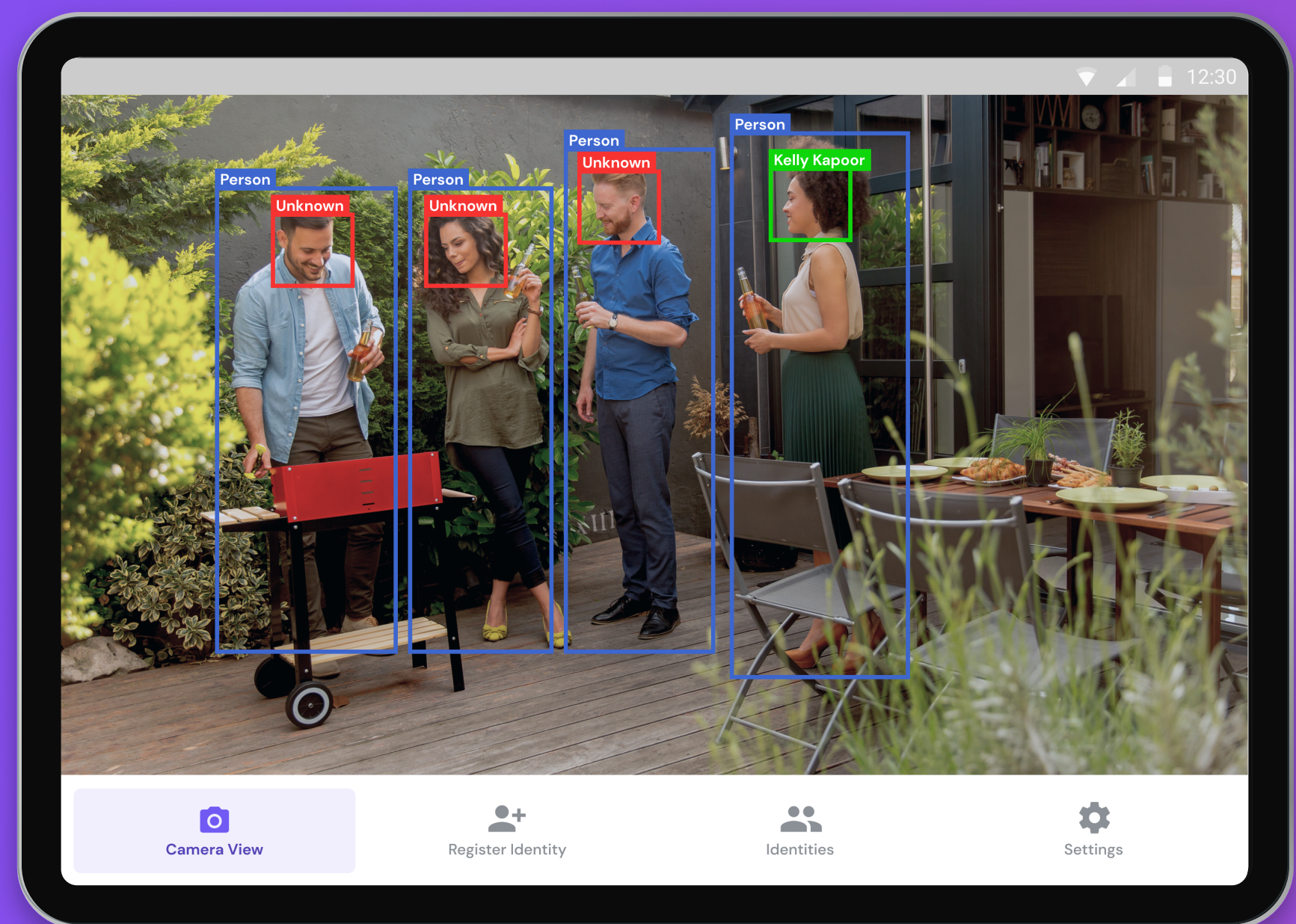
● De-Register or Remove Identity

○ Vehicle Detection

○ Package Detection

○ Evaluation Guidelines

3. Identity will be removed from system and the face will not be recognized



○ Register an Identity

○ De-Register or Remove Identity

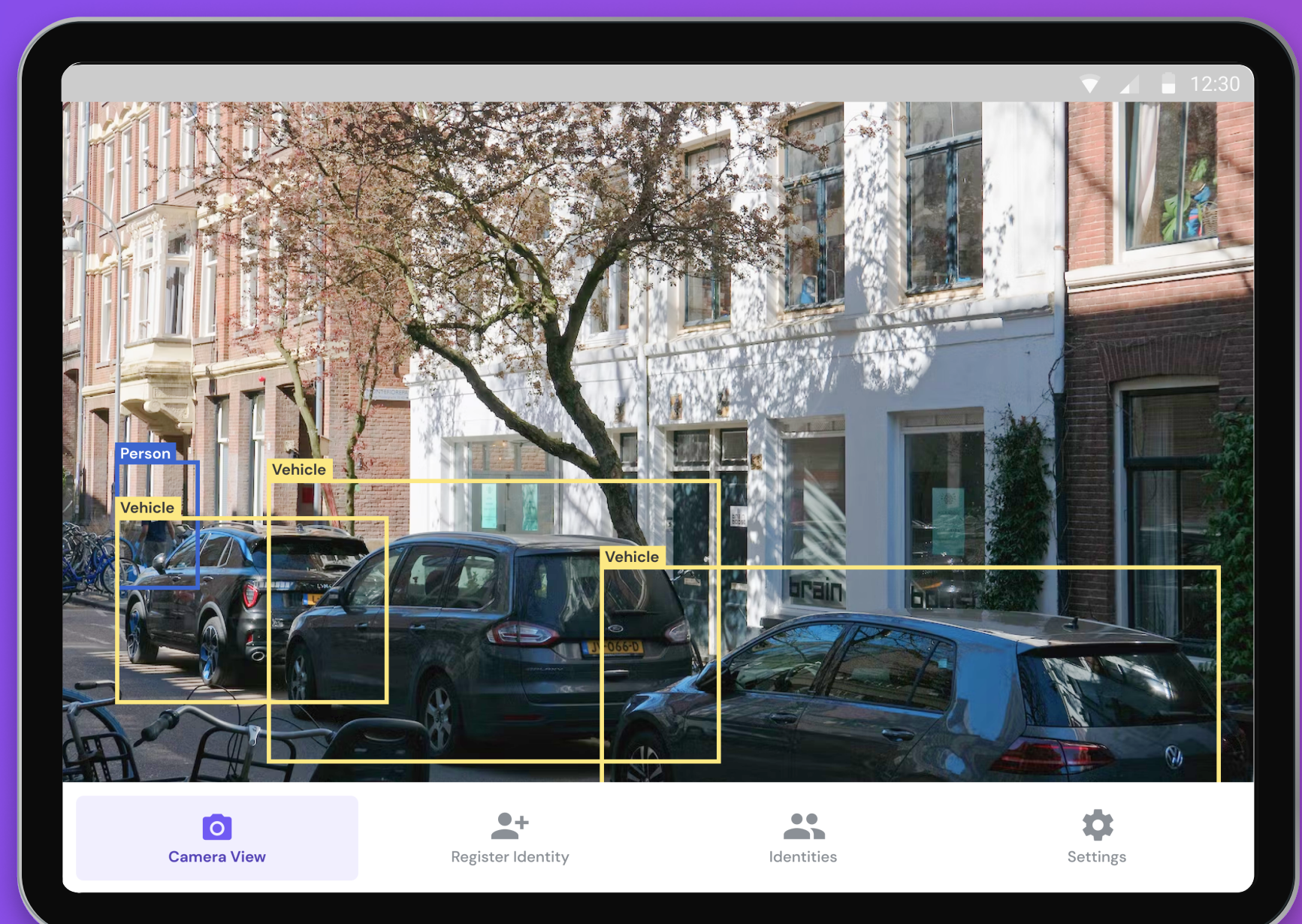
● Vehicle Detection

○ Package Detection

○ Evaluation Guidelines

## Vehicle Detection

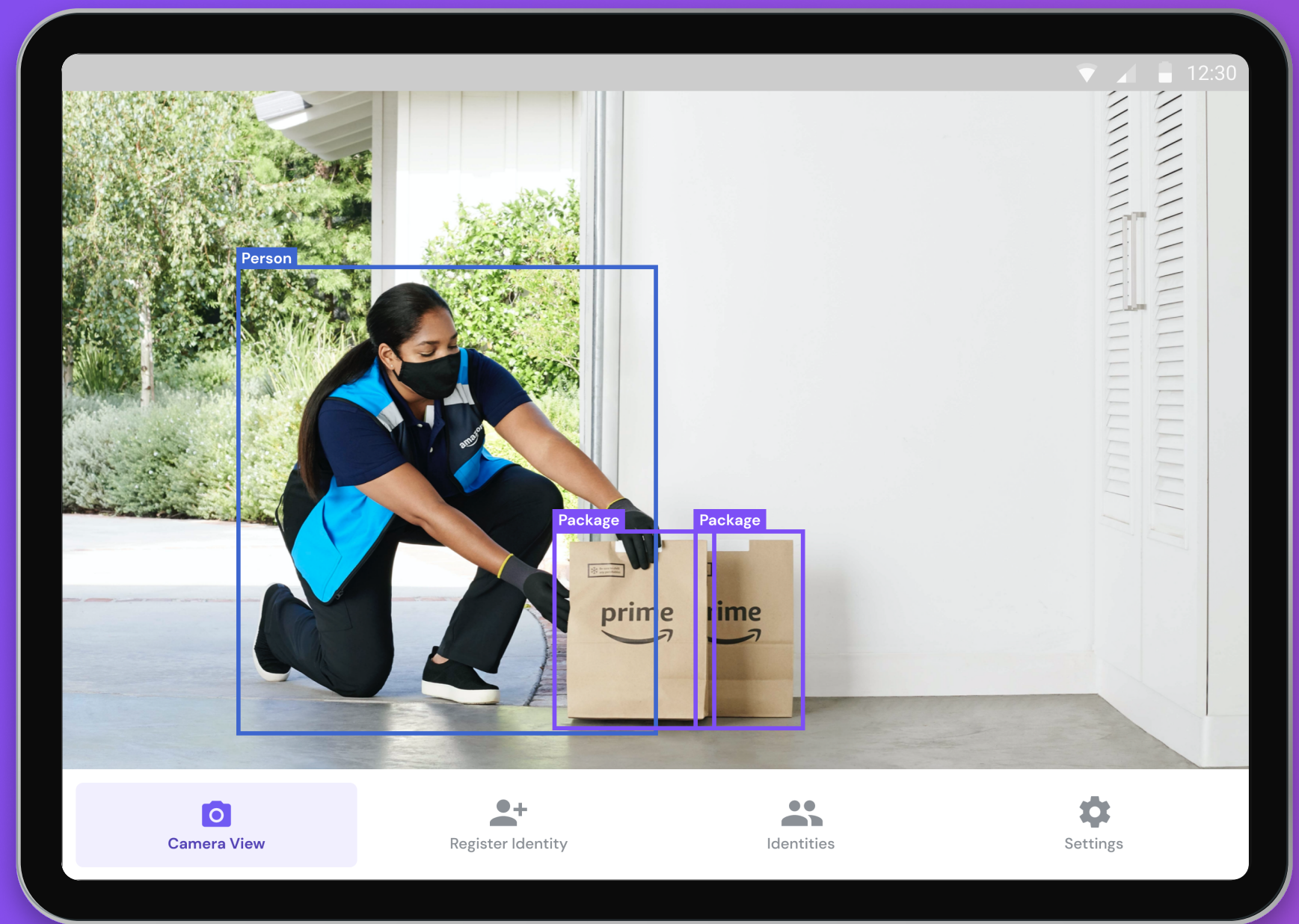
1. Vehicle Detector does not require registration, it will automatically detect vehicles



- Register an Identity
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# Package Detection

1. Package Detector does not require registration, it will automatically detect packages



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# Evaluation Guidelines

With FR-EK, performance can be assessed by varying environmental conditions, e.g. lighting levels, and/or test subject appearance, e.g. pose angle, range, accessories (such as hats and glasses)



# FAQs

## Doorbell App Not Working

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If the doorbell app is not working there could be a few things wrong.

1. The firmware was not correctly updated. To update firmware:
  - a. Download and extract the .rar file into a directory. There are three files inside, CameraOTA.exe, ota\_vehicle.tar, and readme.
  - b. Turn on your video doorbell and connect to its wireless AP from your notebook.
  - c. Open the cmd prompt window cd to the directory where you extract the rar file.
  - d. Type the following command: cameraota.exe 192.168.0.1 ota\_vehicle.tar this will load in the new firmware and install.
  - e. After the command finishes executing, set a timer for 15 minutes and leave the camera powered on to install the update.
  - f. After 15 minutes, power cycle the video doorbell.
  - g. You should hear a audio prompt to confirm that the firmware has been upgraded.
2. The doorbell needs to connect to the correct Wifi Network. To ensure the doorbell is connected to the correct wifi network, repeat the Demo App Setup (works on android) procedure from above.

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## The Demo App requires me to re-register my Identity

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The current demo devices stores Identities on flash memory. When the Device is turned off or powered off all registered Identities will be wiped from memory and will require a new registration.

[Download PDF](#)

[Download Firmware File](#)

[Download APK File](#)

## About Xailient

Founded in 2019, Xailient is a Computer Vision company specializing in putting incredibly accurate AI onto impossibly small Edge devices.

We've built the world's smallest and fastest object detector to fit on extremely tiny devices running on exceptionally low power. Specializing in TinyML computer vision for Edge devices, Xailient uses its patented technology to radically improve efficiency compared to other available solutions.

The result is accurate, real-time computer vision that's cost-effective.  
See what matters - and ignore the rest.

