Face Recognition and Liveness SDKs
for Mobile Platforms

From consumer-facing IDV and eKYC applications to ruggedized tablets for government identity programs, from next-generation kiosks for point-of-sale and air travel to next generation access control and visitor management, mobile platforms have become indispensable for establishing and verifying strong identity.

Face Recognition

In support of this wide range of applications, Paravion offers its complete Face Recognition SDK for Android and iOS, with functions for face detection, landmark detection, image quality analysis, template (embedded) creation, and support for 1:1 and 1:N face matching. Like all of our Edge AI solutions, Paravision Face Recognition Mobile SDKs are compatible with Paravision backend SDKs and Engines, allowing partners to use the right subset of functions to enable their desired application and system architecture.
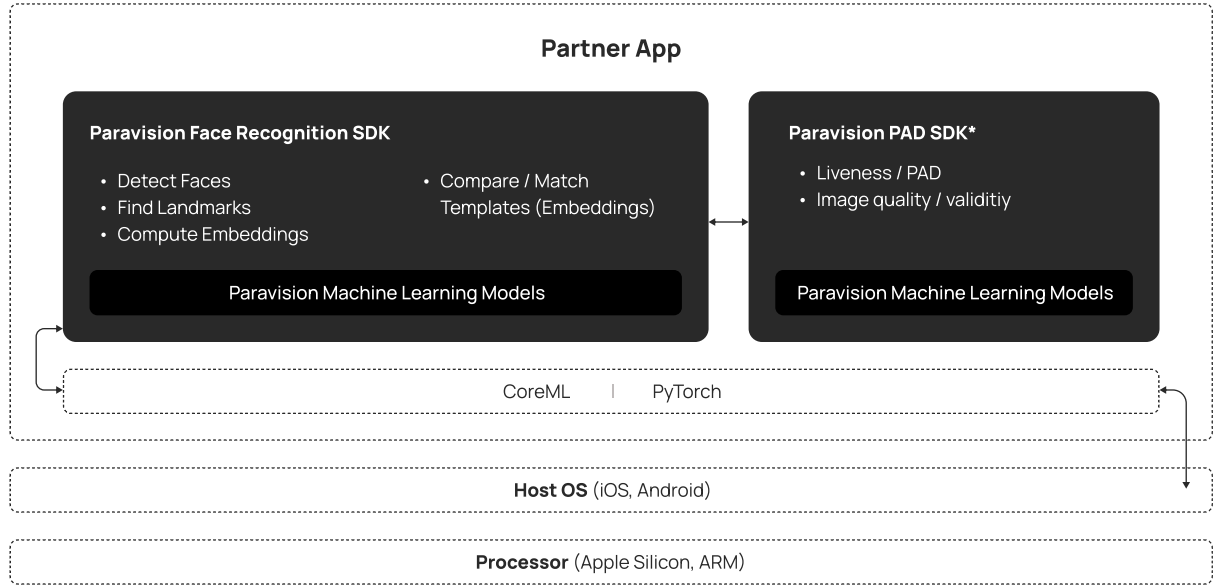
For developers looking to implement Android or iOS apps on standard smartphone form factors, Paravision offers a collection of detailed reference applications that include UI / UX sample implementations. This holistic SDK approach can enable extremely fast, low-risk development of modern applications using sophisticated face recognition capabilities.

2D/RGB Presentation Attack Detection[BETA]

In unattended, automated identity verification applications, ensuring the authenticity of a presented face is critical. In order to help ensure that a presented face is not a spoof (for example, a high resolution video being displayed on a tablet), Paravision now offers an AI-based 2D/RGB Presentation Attack Detection (PAD) SDK. The Paravision PAD SDK functions on single frame, color images, such as standard selfie images, delivering metrics on the likelihood that an image is authentic or a spoof.

The Paravision PAD SDK has been optimized for front-facing mobile cameras, and can be deployed with iOS or Android apps or on the server-side, depending on security and operational requirements. The PAD SDK also includes advanced metrics for real time user feedback, including Paravsion's NIST-tested image quality metric, that maximize performance and usability.
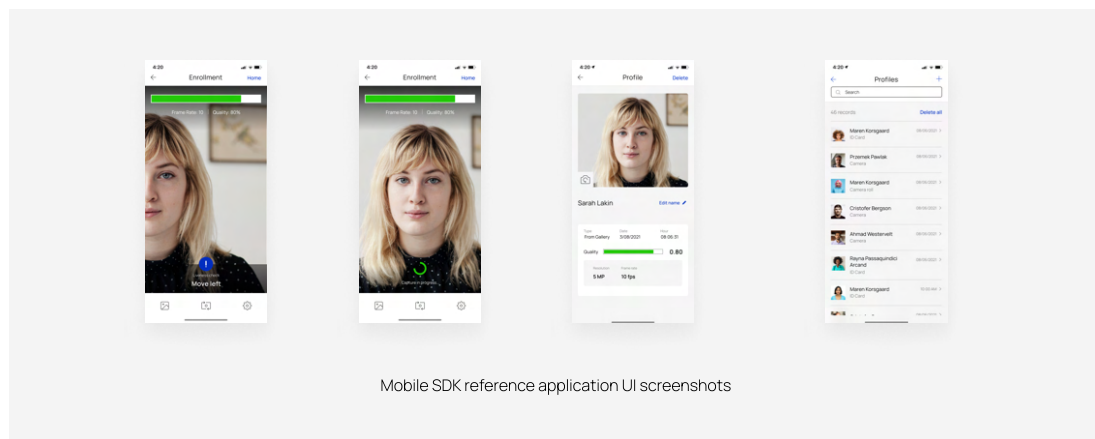
System Architecture

Partner App

Paravision Face Recognition SDK

- Detect Faces
- Find Landmarks
- Compute Embeddings
- Compare / Match
  Templates (Embeddings)

Paravision Machine Learning Models

Paravision PAD SDK*

- Liveness / PAD
- Image quality / validitiy

Paravision Machine Learning Models

CoreML | PyTorch

Host OS (iOS, Android)

Processor (Apple Silicon, ARM)

*Can be deployed server-side as well

User Interface Reference Apps

Paravision provides full reference apps with UI/UX recommendations as well as sample apps with source code that can be used for rapid, low-risk development.

Mobile SDK reference application UI screenshots

Technical Specifications

Supported programming languages	iOS - Swift, Android - Kotlin, C++[BETA]
Supported operating systems	Android 8.0+ (API v26), iOS 13+
Supported hardware platforms and computer vision frameworks	Apple Silicon (CoreML) ARM (PyTorch)

Supported functions	Face Detection:
	  • Face detection / bounding box detection
	  • Face landmarks detection
	  • Image quality analysis
	
	Face Recognition:
	  • Template (embedding) generation
	  • Template matching, supporting 1:1 verification and 1:N identification
	
	Related:
	  • Presentation attack detection
	  • Face validity checks

PAD (Liveness) Details	Level 1 available now, Level 2 coming soon Calculated on a single, 2D/RGB selfie face image Real time image quality / user feedback