SKIA

Medical Markerless Augmented Reality System

Company	S K I A Co,, Ltd.
Business field	Medical AR / VR / XR Software development
CEO	Lee, Jong-Myoung
Establishment	1st September 2018
Number of employee	10
Location	Seoul, Korea
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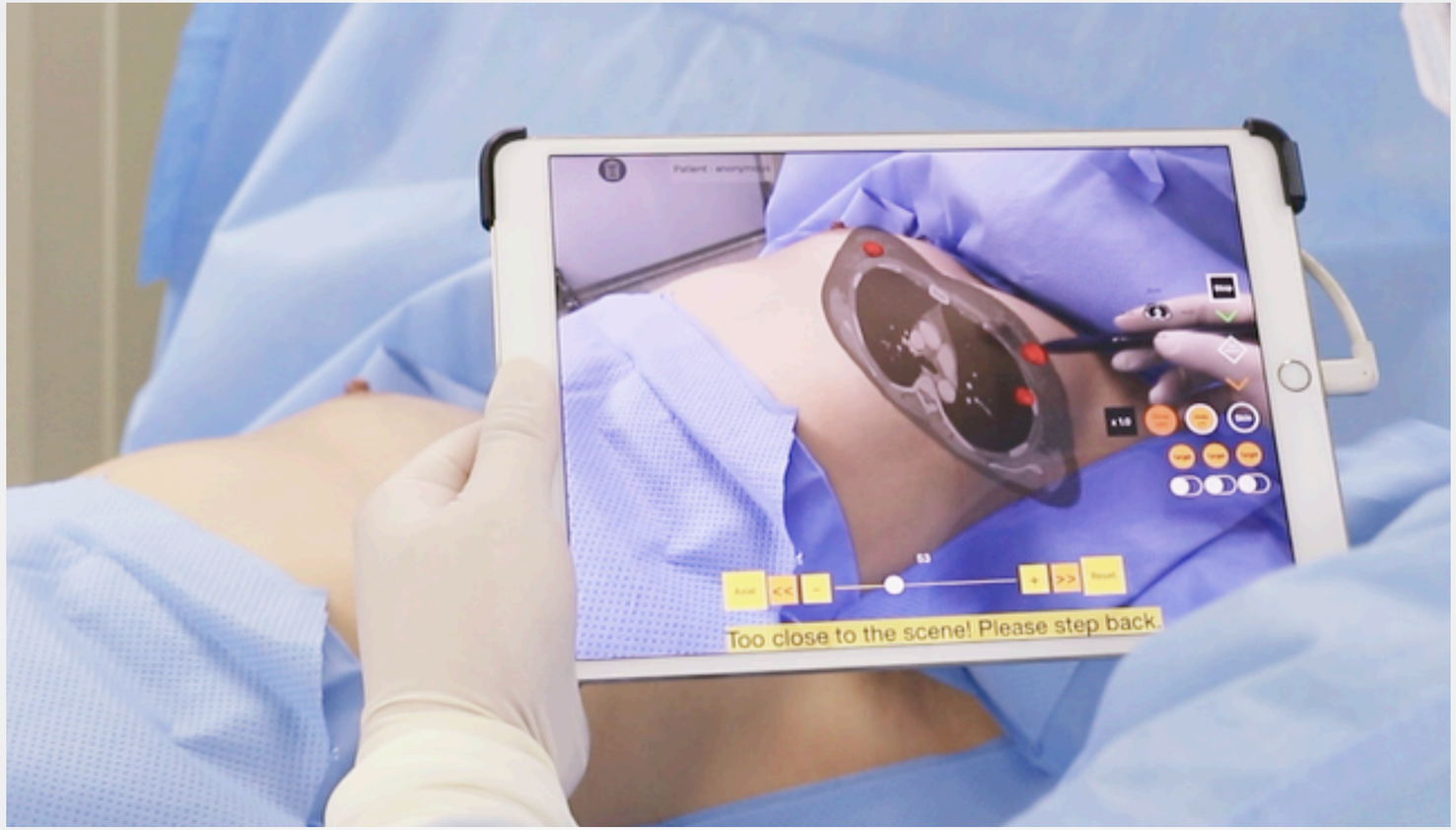
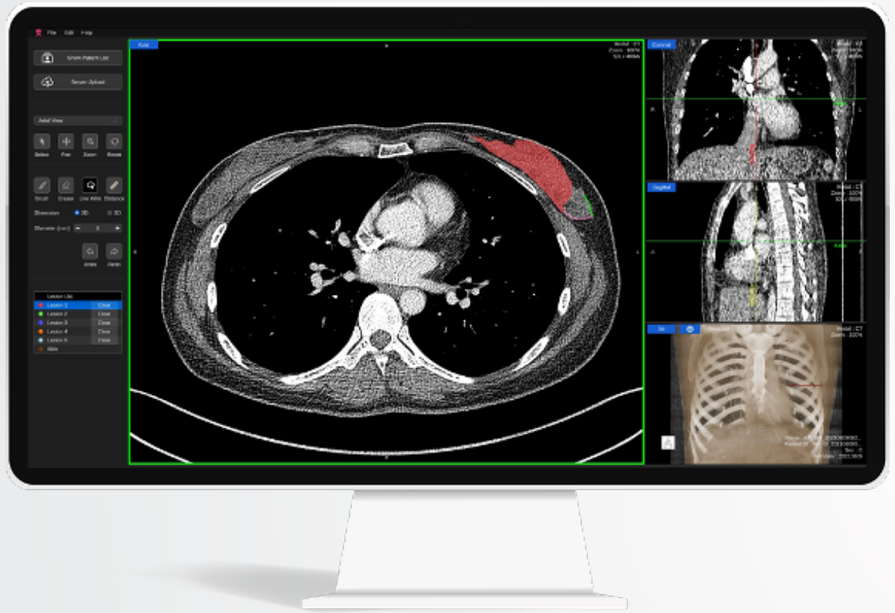
Website	www.skia.kr

Jun. 2019.	Designated as a KFDA approval helper for newly developed medical devices
Nov. 2019.	Winner at Comeup 2019 Bio & Health Championship
Oct. 2019.	Released patent in Korea
Dec. 2019.	Designated as KTL 2020 Digital Healthcare software validation support.
Apr. 2020.	Designated as KTL healthcare VR / AR product market entry support.
Apr. 2020.	KTL EMC Test(IEC 60601-1-2), Laser Test(IEC 60825-1) report issued
Oct. 2020.	Registration of the patent in USA (US 10803608 B1)
Jan. 2021.	Applied FDA pre-submission
July. 2021.	Raised USD 4.5 Million in series A
Sept. 2021.	Approval of the clinical trials by KMFDS
Oct. 2021.	Winner at Johnson & Johnson QuickFire Challenge 2021



SKIA provides a digital surgery guide solution using augmented reality (AR) technology for superimposing a patient's medical images (e.g., CT or MRI) over a real-time camera view of the patient, by which the surgeons can accurately locate the tumor resection sites(primarily focusing on breast cancer surgery).

Our AR solution can reduce surgical deviations and provide a safe surgical environment for surgeons by providing accurate visual navigation of the CT/MRI medical images. Currently, we are working on breast cancer lesions, and It can be extended to many operations such as reconstructive plastic surgery, emergency operation that need to avoid blood vessel, biopsy on organs, liver, pancreas and more.



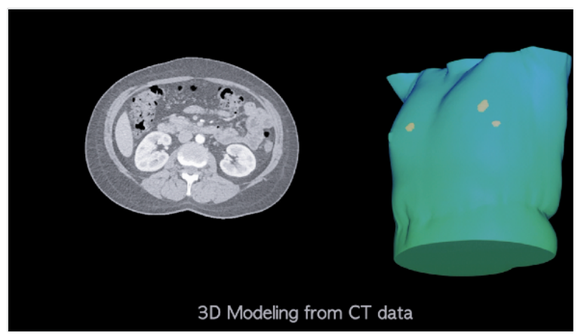
Real-time data transferring

S K I A _ Processor
For Segmentation

S K I A _ App
For AR registration

SKIA's technology utilizes the CT medical images for the AR registration. In order to accurately project the AR based 3D images onto patients body, radiologists-supervised segmentation of medical images and the data pre-processing is required.

Step 1



Handling Medical imaging big data

Downloading CT data from PACS(Picture Archiving & Communication System), creates 3D modeling automatically

Step 2

Scanning patient body

Creates 3D image from scanning patient body with 3D depth camera.

Step 3

Augmented Reality Registration

between 3D model Step 1

and patient 3D scanned image Step 2

AWARDS

2019.11 **Winner at Comeup 2019 Bio & Health Championship**

2021.09 **Winner at Seoul Stage Ureka 2021**

2021.10 **Winner at Johnson & Johnson QuickFire Challenge 2021**

R&D

2021 **Clinical trials in Ewha Womans University Hospital**

2021 **S K I A _ CMF Solution with Asan Hospital**

Patent / certification

2019.10 **Released patent in Korea**

2020.07 **MOU with Ewha Womans University Hospital**

2020.08 **Designated as an "Innovative Medical Device Company" by the KMFDS**

2020.09 **Register patent in USA (US 10803608 B1)**

2021.01 **Apply FDA pre-submission**

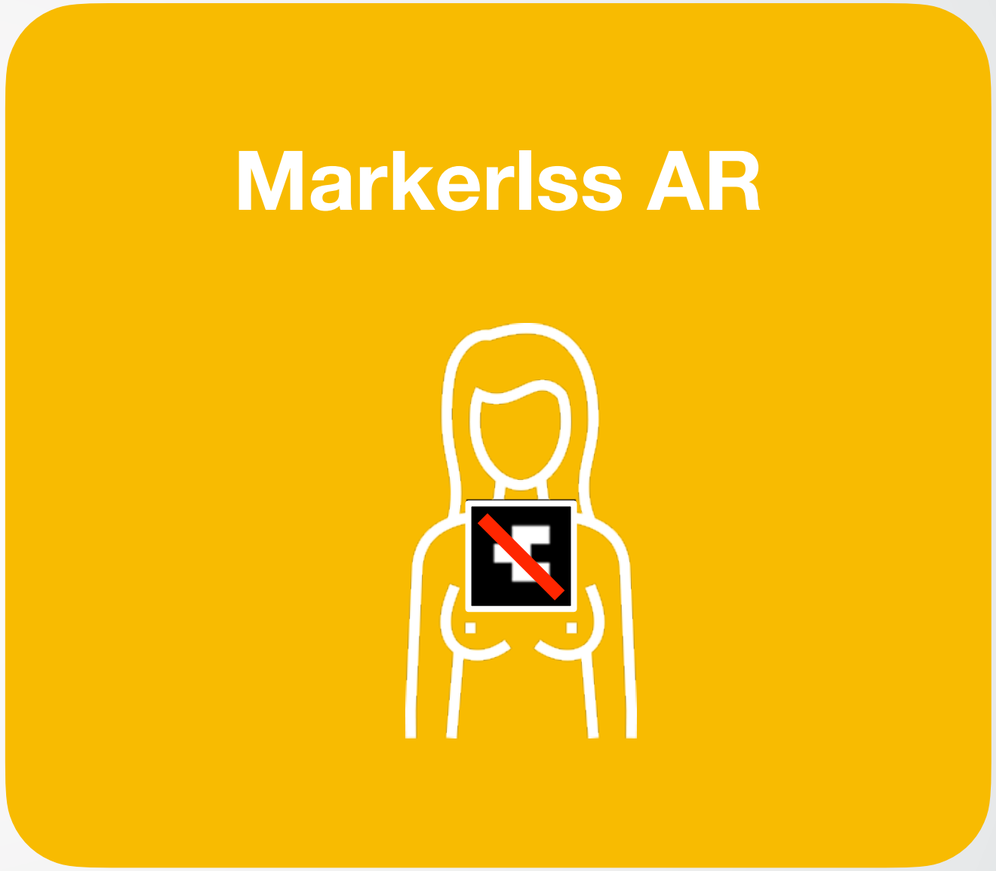
2021.07 **MOU with Asan Hospital**

2021.09 **Approval the clinical trials by KMFDS**

SKIA was designated as an "Innovative Medical Device Company" by the Korea Ministry of Food and Drug Safety in 2020.
Following the granted US patent and the FDA pre-submission, SKIA is currently in the process of clinical trials in Korea.

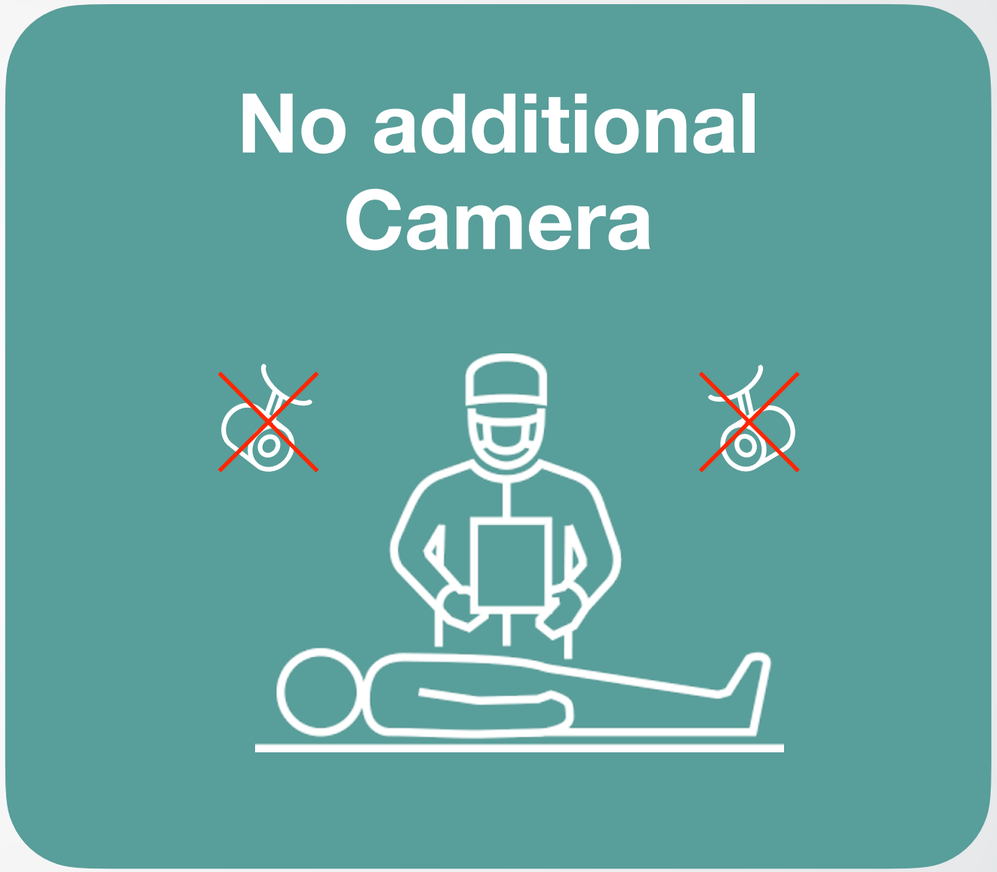
Accurate

Most of the current AR technologies applied in surgery settings have to use various markers to be implanted in bone tissues such as a spine or skull and also install a camera device to track the markers. However, SKIA uses a markerless method that projects AR images using the information solely obtained from directly scanning patient's body.

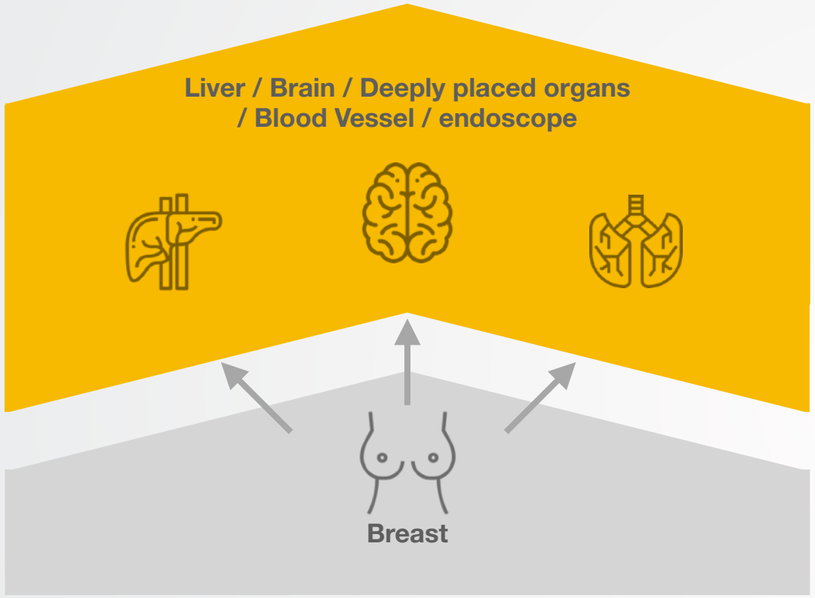


Simple

It is a handy solution for surgeons as there is no need for installing additional camera device in the operating room, and is even more accurate than the method using markers.

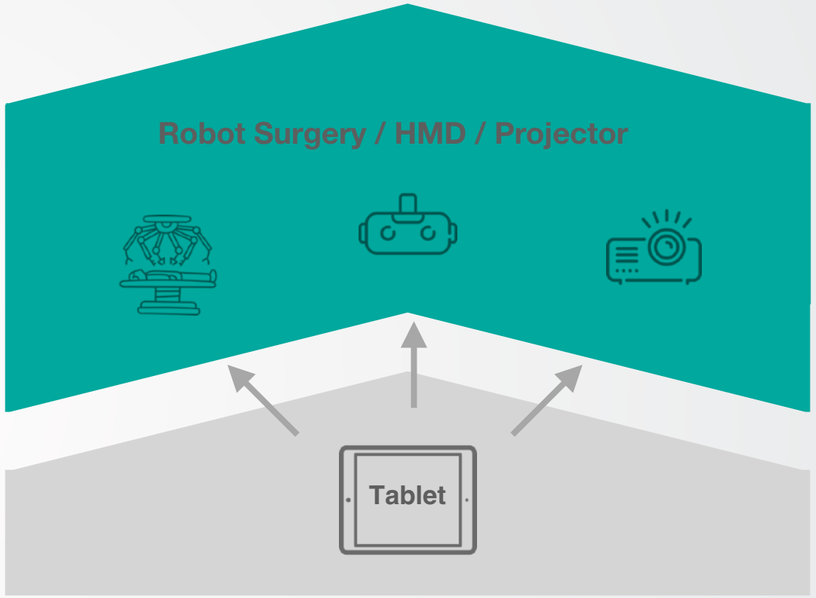


Software



SKIA is not limited to bone tissues, but is also applied to soft tissues such as breast, liver, blood, lung and brain.

Hardware



SKIA can be converged with the head mounted display(HMD) and robotics technologies as these technologies continue to be developed.

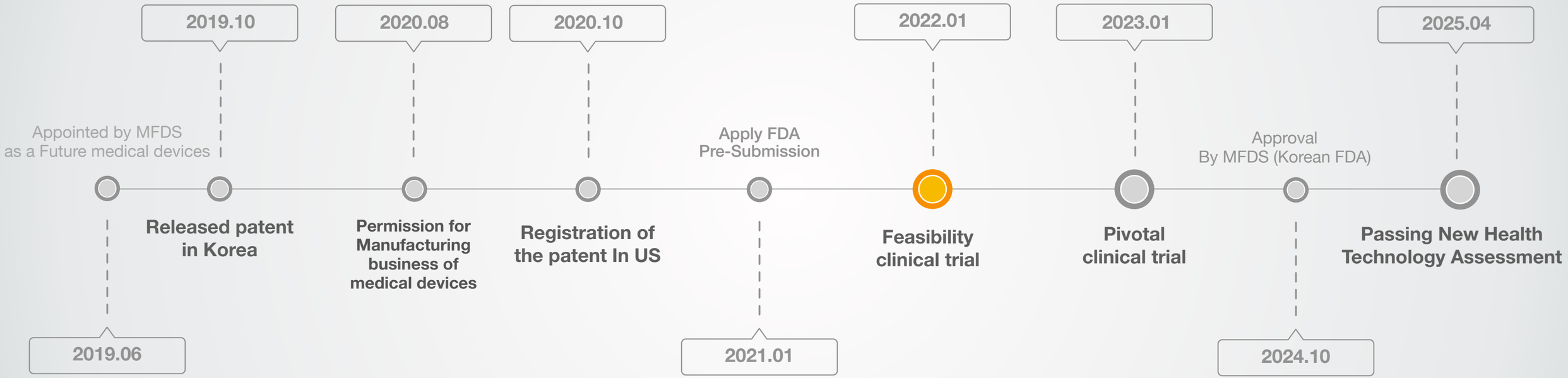
Clinical trials in Ewha Womans University Hospital

Currently, SKIA has a research center for clinical trials in Ewha Womans University Hospital(renowned tertiary hospital in Korea) and is in the process of filing an application for clinical trials.

Clinical research with Asan Hospital

SKIA is building a smart surgery room with the Asan Hospital (renowned tertiary hospital in Korea) as a part of the National human-centered convergence technology project and is developing a Face AR solution that projects medical data to the patient's face when reconstructive plastic surgery.

Schedule


2019.10
2020.08
2020.10
2022.01
2023.01
2025.04
Appointed by MFDS
as a Future medical devices
Apply FDA
Pre-Submission
Approval
By MFDS (Korean FDA)
Released patent
in Korea
Permission for
Manufacturing
business of
medical devices
Registration of
the patent In US
Feasibility
clinical trial
Pivotal
clinical trial
Passing New Health
Technology Assessment
2019.06
2021.01
2024.10

AR Technology

CEO
Lee, Jong-Myoung
Business

COO
Kwon, Hyuk
UX, Product

CTO
Na, Seung-Won
development

Clinical Research

Advisor
Lee, Jun-Woo
Ewha Hospital

Medical imaging big data

Advisor
Lee, Jeong-Jin
Soong-sil University

Our team members have more than 10 years of expertise in each area, including AR technology, AI medical image segmentation and coordination, and expert surgeon.

SKIA's AR-based digital surgery guide solution can project the accurate location of the tumor site onto the patients' body, which can greatly help the surgeon to design preoperative surgical planning and reduce the differences in surgery skills that will improve the surgical outcomes. Therefore, we believe the SKIA's solution is well fit for the "potentially ground-breaking ideas that aim to transform the surgical pathway"

Thanks

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