

GENERATIVE GENERATIVE

ARCHITECTUAL DESIGN

생성 AI 프롬프트
엔지니어링

Beginner and intermediate

2025.4

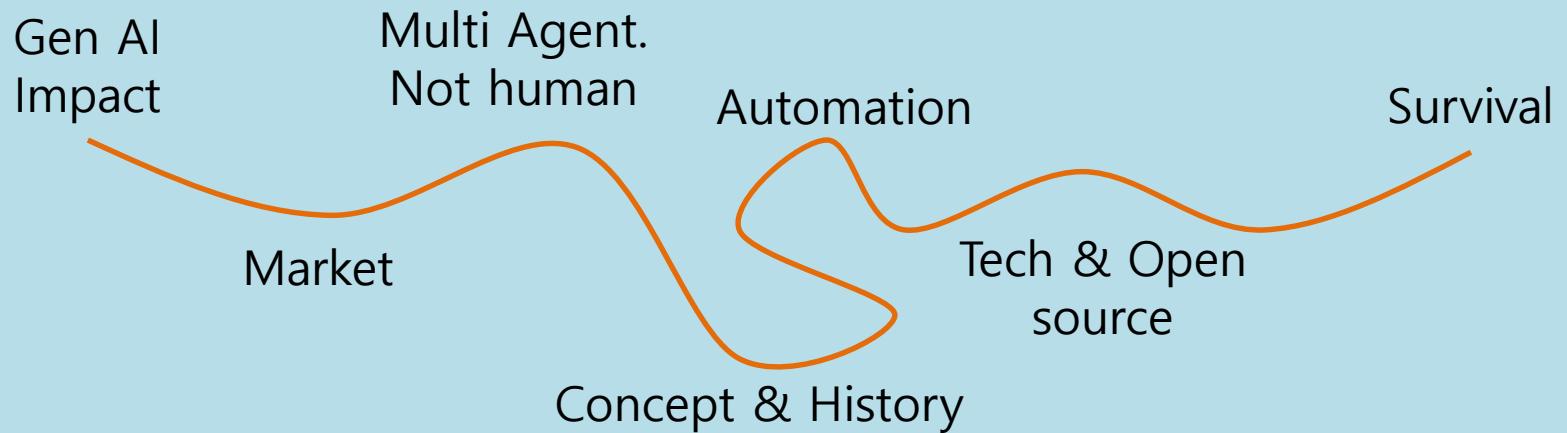
강태욱
공학박사

Ph.D Taewook, Kang

laputa99999@gmail.com

<https://daddynkidsmakers.blogspot.com>

생성 AI



본 강의 실습 준비

ChatGPT 회원 가입. OpenAI API 가입 (API Token 준비)

Claude 회원 가입

Microsoft Copilot: Your AI companion 회원 가입

Midjourney 필요한 경우 가입

Ollama on Windows GPU 노트북 있다면 다운로드 후 설치

Welcome To Colab – Colab 회원 가입 (무료 옵션 있음)

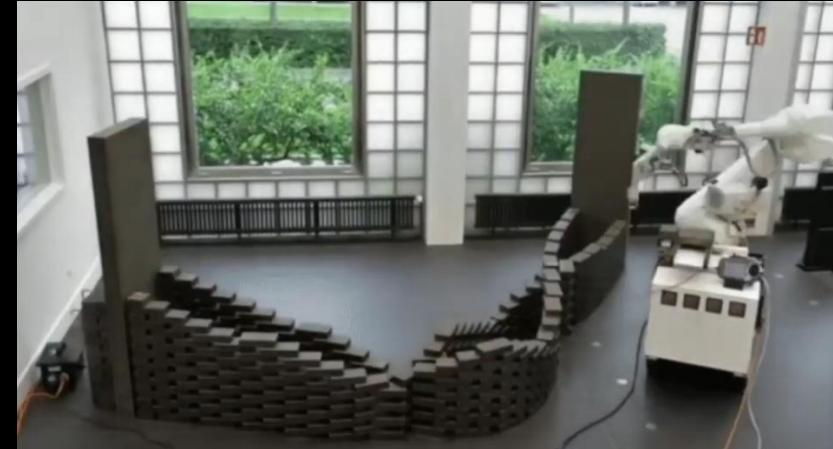
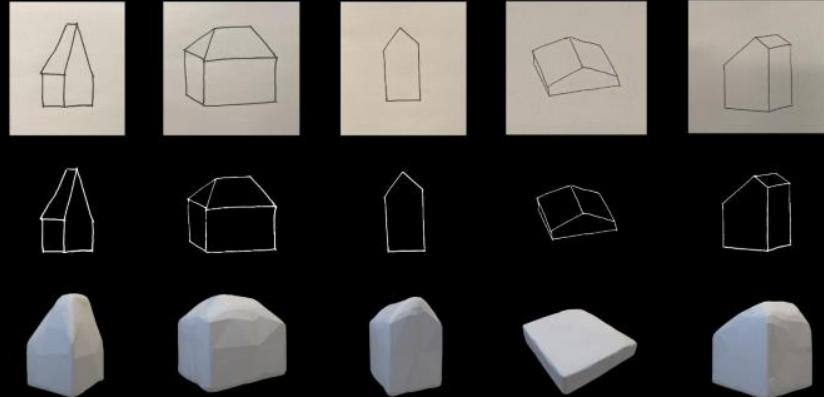
Hugging Face – The AI community building the future. 회원 가입 (무료 옵션)

GitHub 회원 가입 (무료 옵션)

AI Overview & Trend

Overview context in Architecture

GenAI prompt ► 2D IMG ► 3D Geometry ► BIM
prompt ► Script code generation ► Digital Fabrication
3D Printing
CNC Milling
Laser Cutting
...



[Architectural Sketch to 3D Model: An Experiment on Simple-Form Houses | SpringerLink](#)

[Generative Design Workflows \(AI + Architecture\)](#)

Overview context in Architecture

2D IMG ► Reverse prompt ► 2D/3D Geo



BIM
Digital Fabrication
3D Printing
CNC Milling ...

I'll give you house design image. generate prompt from the image to use it in Midjourney text to image.

Sure! Please upload the house design image, and I'll generate a detailed prompt for you to use in Midjourney.



Here's a prompt based on the design in the image for use in Midjourney:

"A modern, futuristic house with a unique organic and fluid architectural design, featuring smooth, flowing curves and perforated white surfaces that resemble waves or fabric in motion."

A modern, futuristic house with a unique organic and fluid architectural design, featuring smooth, flowing curves and perforated white surfaces that resemble waves or fabric in motion. The building has large glass walls and minimalist elements, with

A modern, futuristic house with a unique organic and fluid architectural design, featuring smooth, flowing curves and perforated white surfaces that resemble waves or fabric in motion. The building has large glass walls and minimalist elements, with



Gen AI impacts

생성 AI 서비스 조사 보고서 - Deloitte

- 마케팅 컨텐츠 작성
- 코딩 개발 지원
- 고객 응대 지원
- 제품 설계 지원
- 연구 보고서 조사 작성
- 합성 및 학습 데이터 생성
- 기업 내 데이터 검색, 정리, 분석 및 요약
- 게임 컨텐츠 설계 및 개발
- 언어 번역
- 시뮬레이션 및 추론
- 고도화된 개인 맞춤 교육 및 훈련
- 현장 업무 지원



Nitin Mittal
Global Generative
AI Leader
Deloitte Consulting LLP



Costi Perricos
Global Office of
Generative AI Leader
Deloitte UK



Lynne Sterrett
US Generative AI Market
Activation Leader
Deloitte Consulting LLP

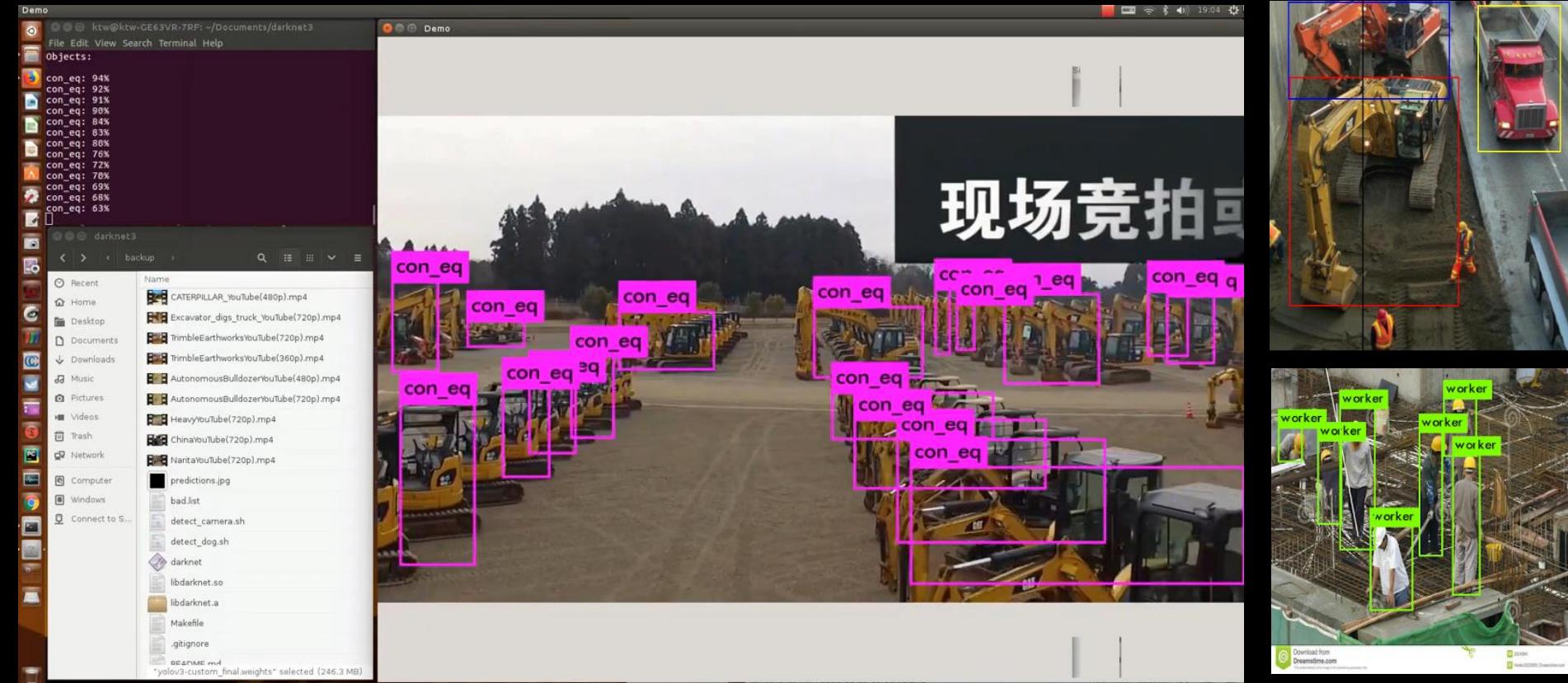


Deborshi Dutt
US AI Strategic Growth
Offering Leader
Deloitte Consulting LLP



From Modal to Multimodal

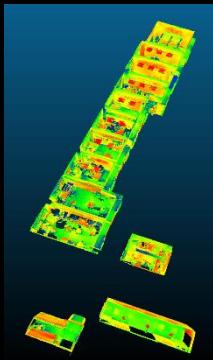
Classification / Prediction / Detection



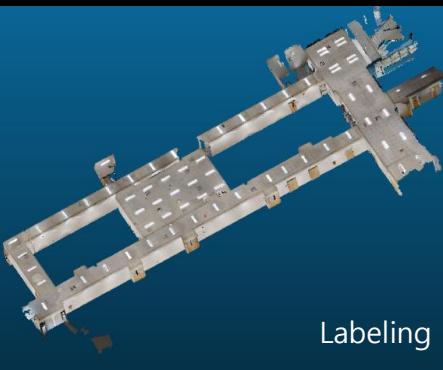
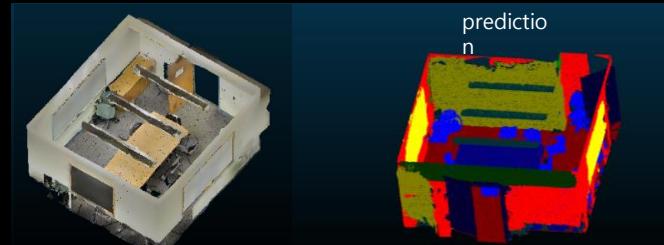
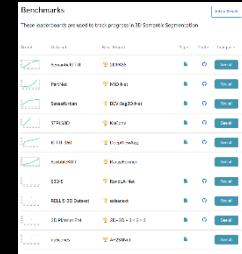
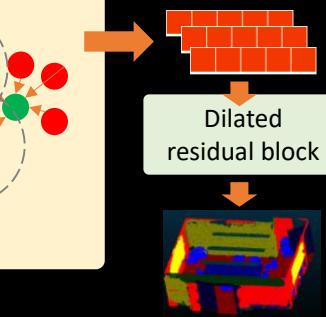
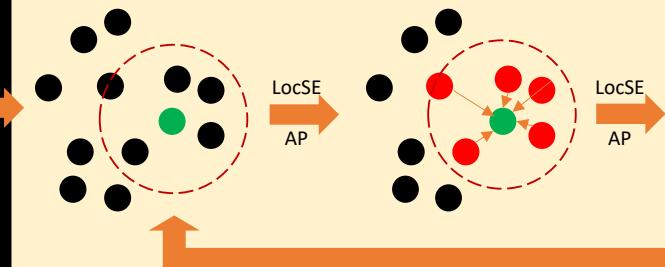
2020.5

이미지 기반 실시간 건설 현장 장비 및 작업자 모니터링을 위한 딥러닝 플랫폼 아키텍처
액체 탐지에 있어 'YOLO' 알고리즘을 주목해야 하는 이유 | 패스트캠퍼스

Classification / Prediction / Detection

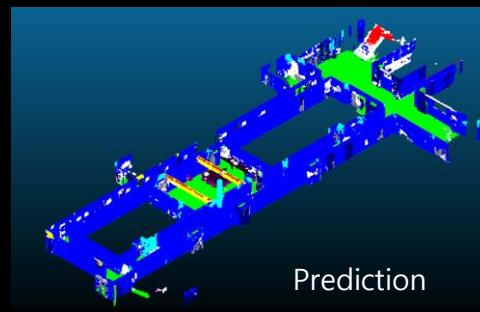


Local spatial encoding (LocSE) & attentive pooling (AP)

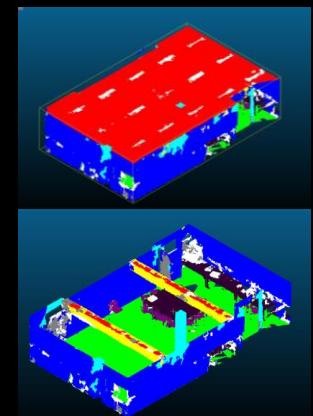


Training & Epoch (85 times)	
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ckpt_00001.pth	60.3 MB
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Labeling



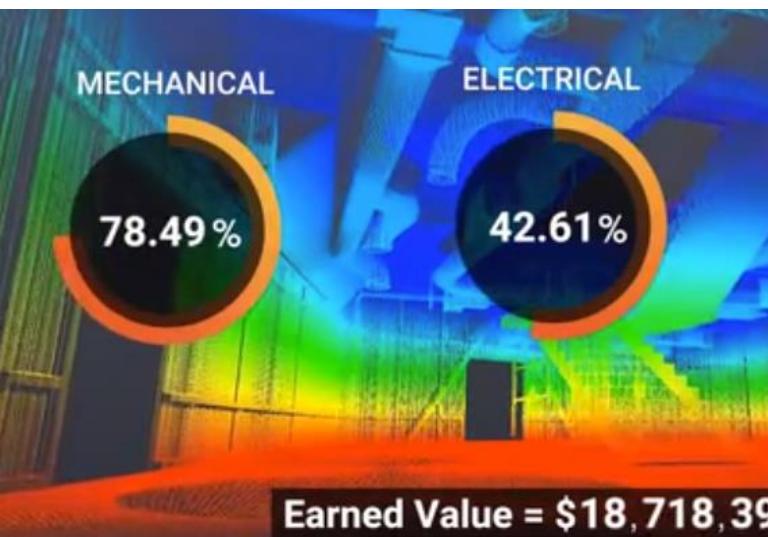
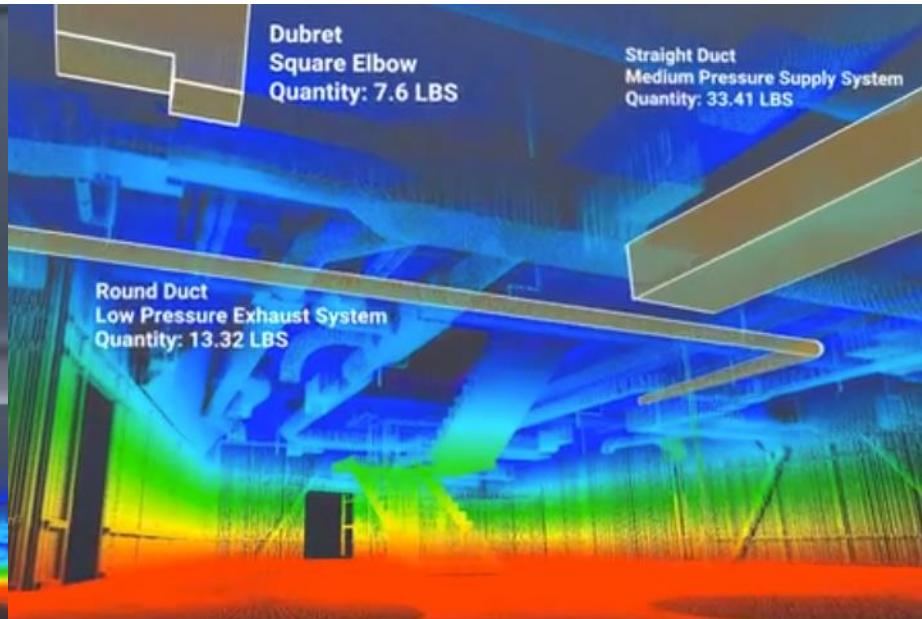
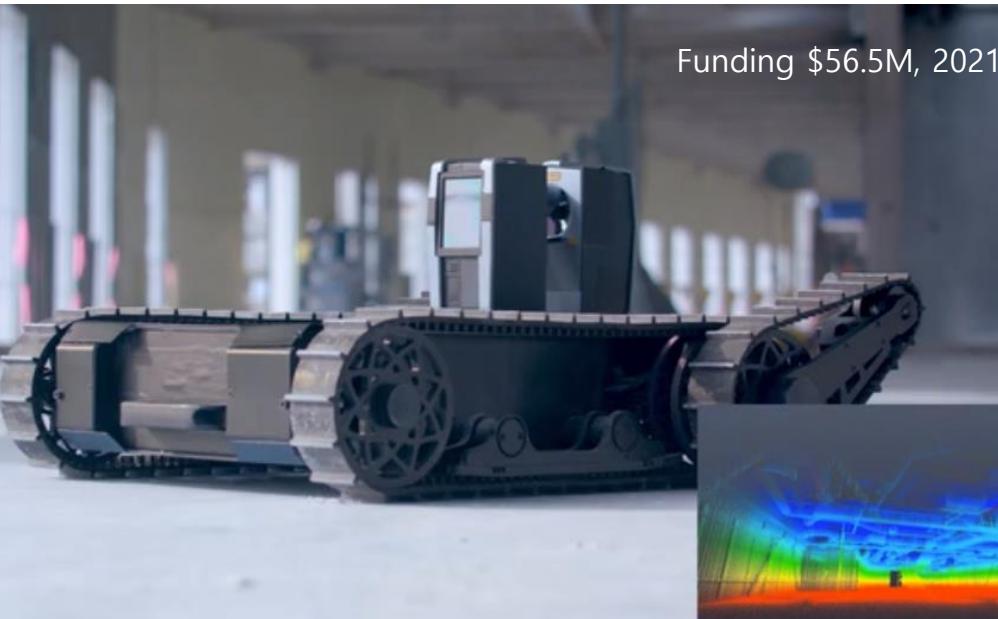
Prediction



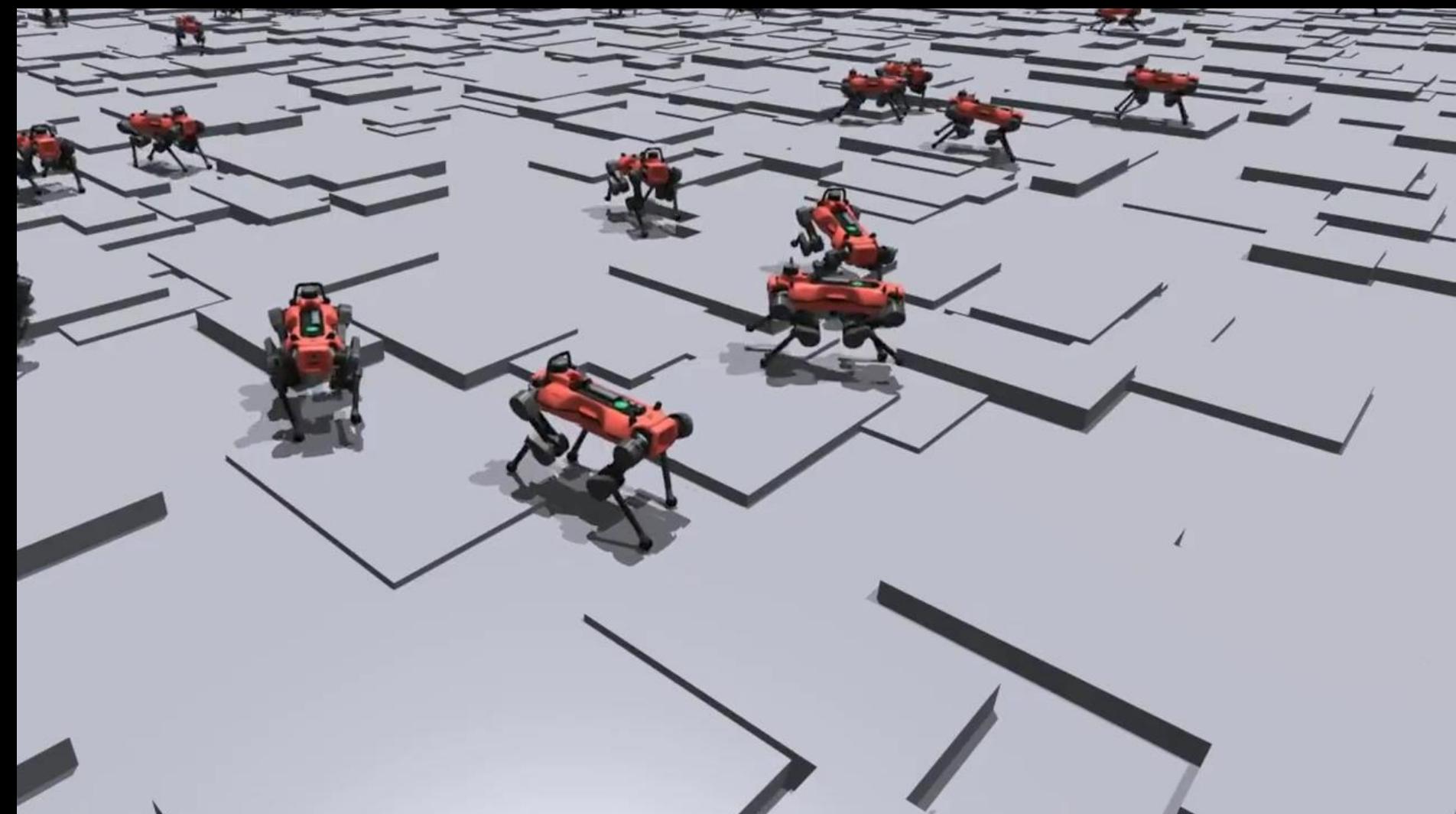
Accuracy = 94.07%. IoU = 80.32%. Train time = 2h 45min (GPU 3080. 8G ram)

[Scan to BIM Mapping Process Description for Building Representation in 3D GIS](#)
[Rule-based scan-to-BIM mapping pipeline in the plumbing system](#)

Classification / Prediction / Detection



Automation

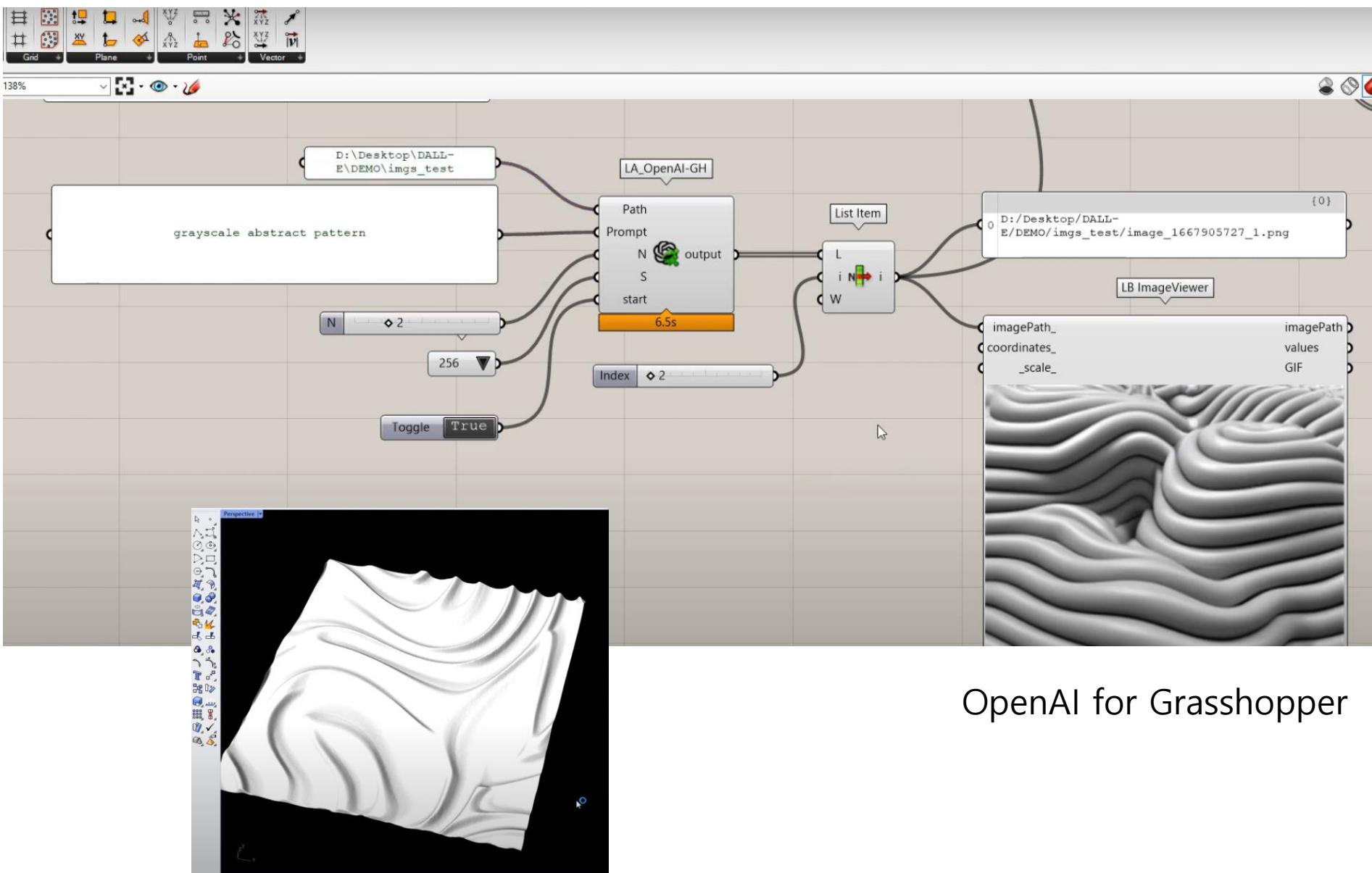


Architectural Design VERAS

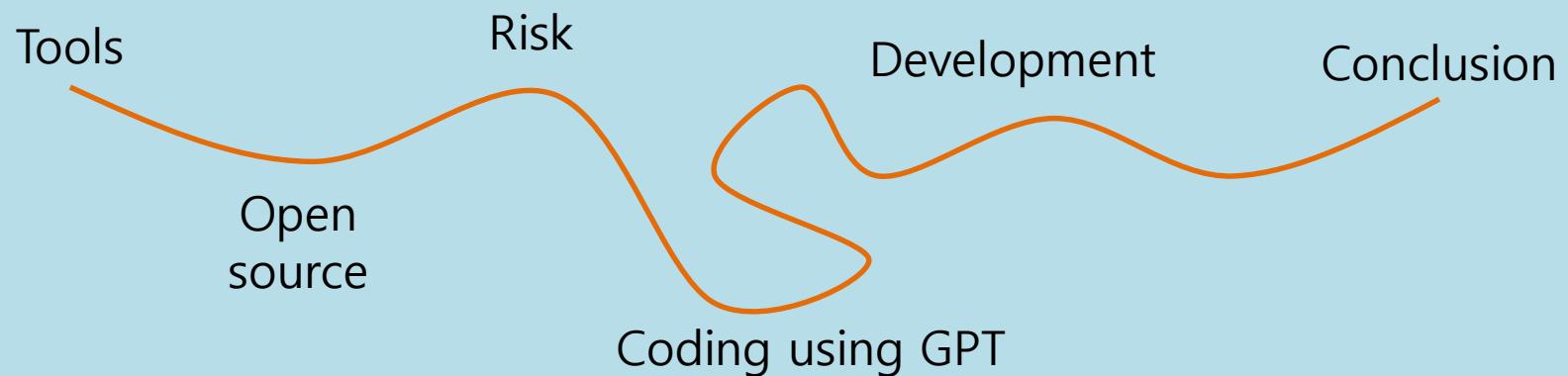


AI 기반 텍스트 렌더링 Revit 애드인 (VERAS, EnvolveLAB)

Architectural Design OpenAI for Grasshopper



생성 AI 프롬프트 엔지니어링 기술 동향



ChatGPT prompt with Ghibli



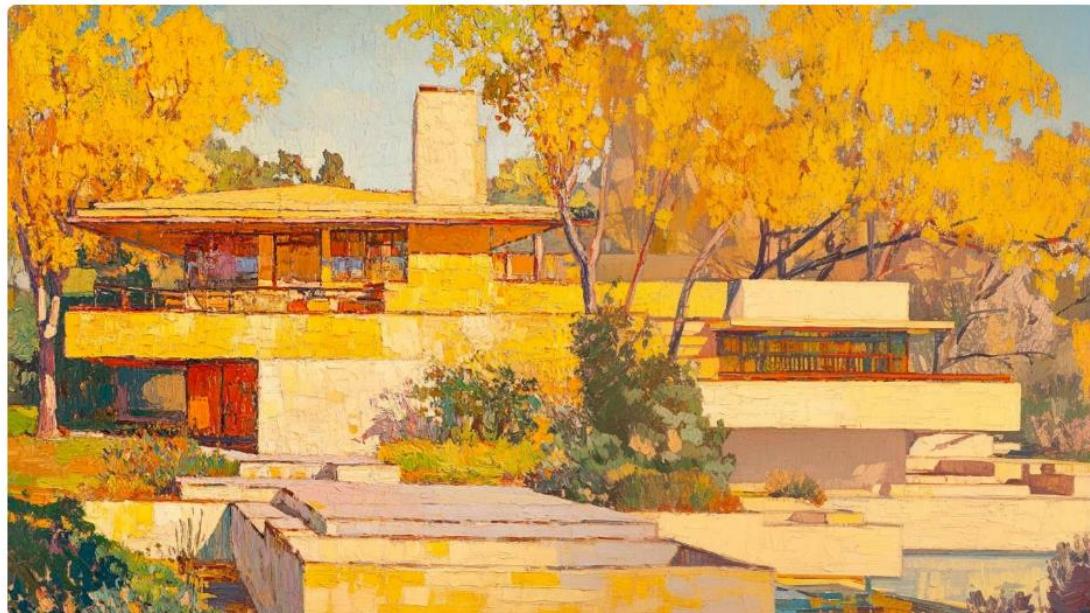
“Make this look like a cozy summer evening in a Ghibli film — soft golden light, fireflies glowing, and a gentle breeze moving the grass.”

“Turn the background into a Ghibli-style village with tiny tea shops, lanterns, and warm, inviting streets.”

AI for Concept Design



Midjurney



Promptlot

Parent



Prompt

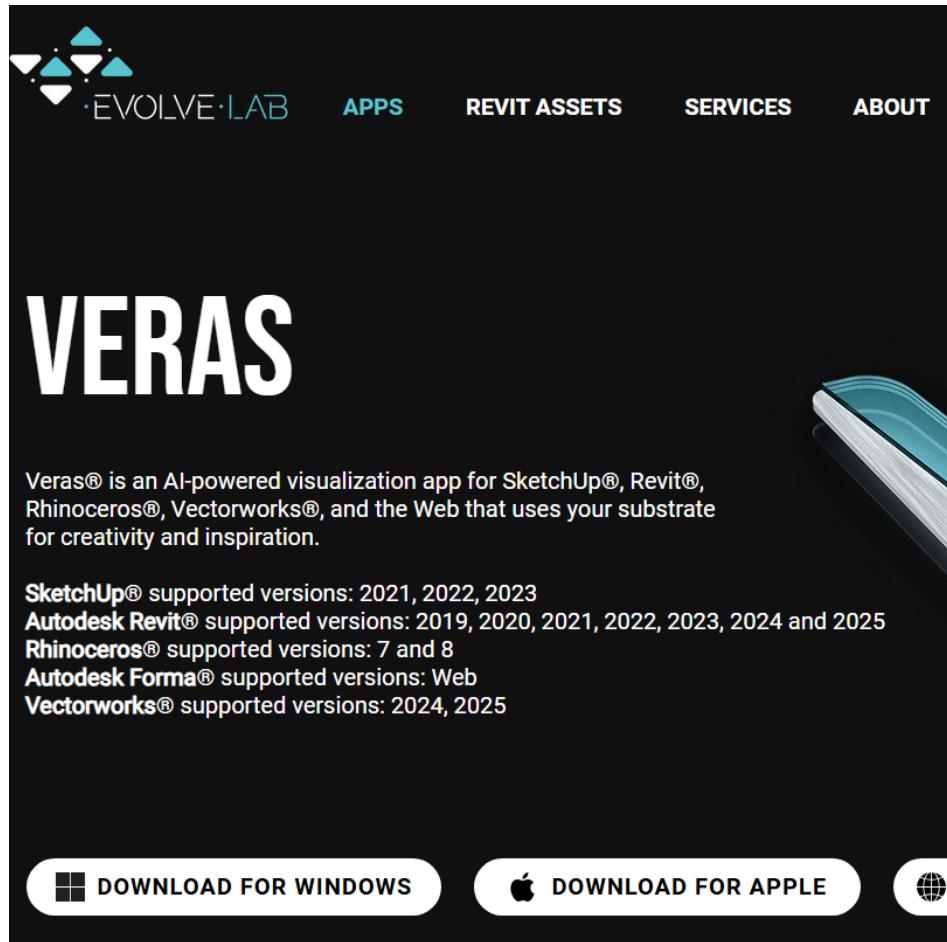
A painting for a house designed by Frank Lloyd Wright and the painting is made by Van Gogh using oil painting rough strokes warm colors dominant color is yellow --ar 16:9 --v 6.1

Description

This painting showcases a modernist house with bold yellow autumn trees in the background, emphasizing the blend of architecture and nature.

Details

AI for Rendering

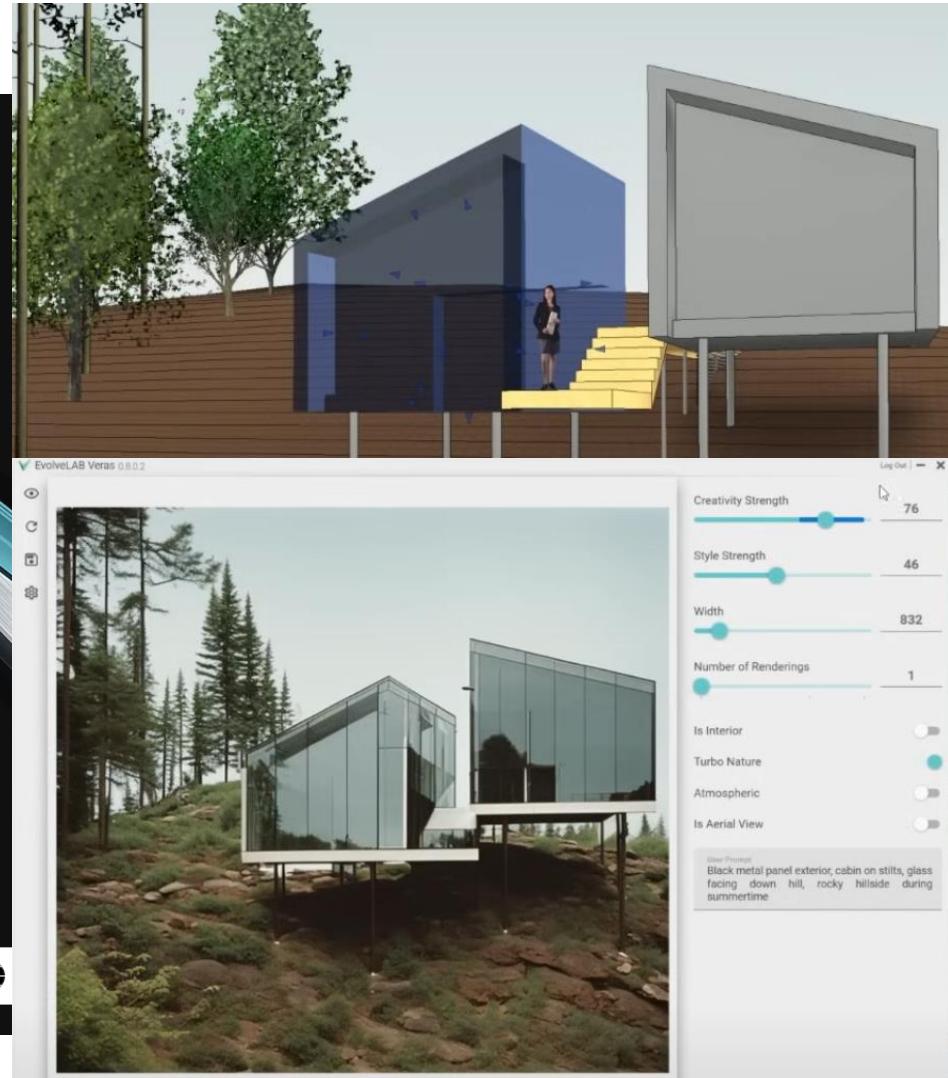


The screenshot shows the EvolveLAB Veras website. At the top, there's a navigation bar with icons for a triangle, a square, and a circle, followed by the text "EVOLVE·LAB". Below the navigation bar are links for "APPS", "REVIT ASSETS", "SERVICES", and "ABOUT". The main title "VERAS" is displayed in large, bold, white letters. Below the title, a paragraph describes Veras as an AI-powered visualization app for various platforms. It lists supported versions for SketchUp, Revit, Rhinoceros, Vectorworks, and the Web. At the bottom, there are two download buttons: "DOWNLOAD FOR WINDOWS" with a Microsoft logo and "DOWNLOAD FOR APPLE" with an Apple logo.

Veras® is an AI-powered visualization app for SketchUp®, Revit®, Rhinoceros®, Vectorworks®, and the Web that uses your substrate for creativity and inspiration.

SketchUp® supported versions: 2021, 2022, 2023
Autodesk Revit® supported versions: 2019, 2020, 2021, 2022, 2023, 2024 and 2025
Rhinoceros® supported versions: 7 and 8
Autodesk Forma® supported versions: Web
Vectorworks® supported versions: 2024, 2025

[DOWNLOAD FOR WINDOWS](#) [DOWNLOAD FOR APPLE](#)



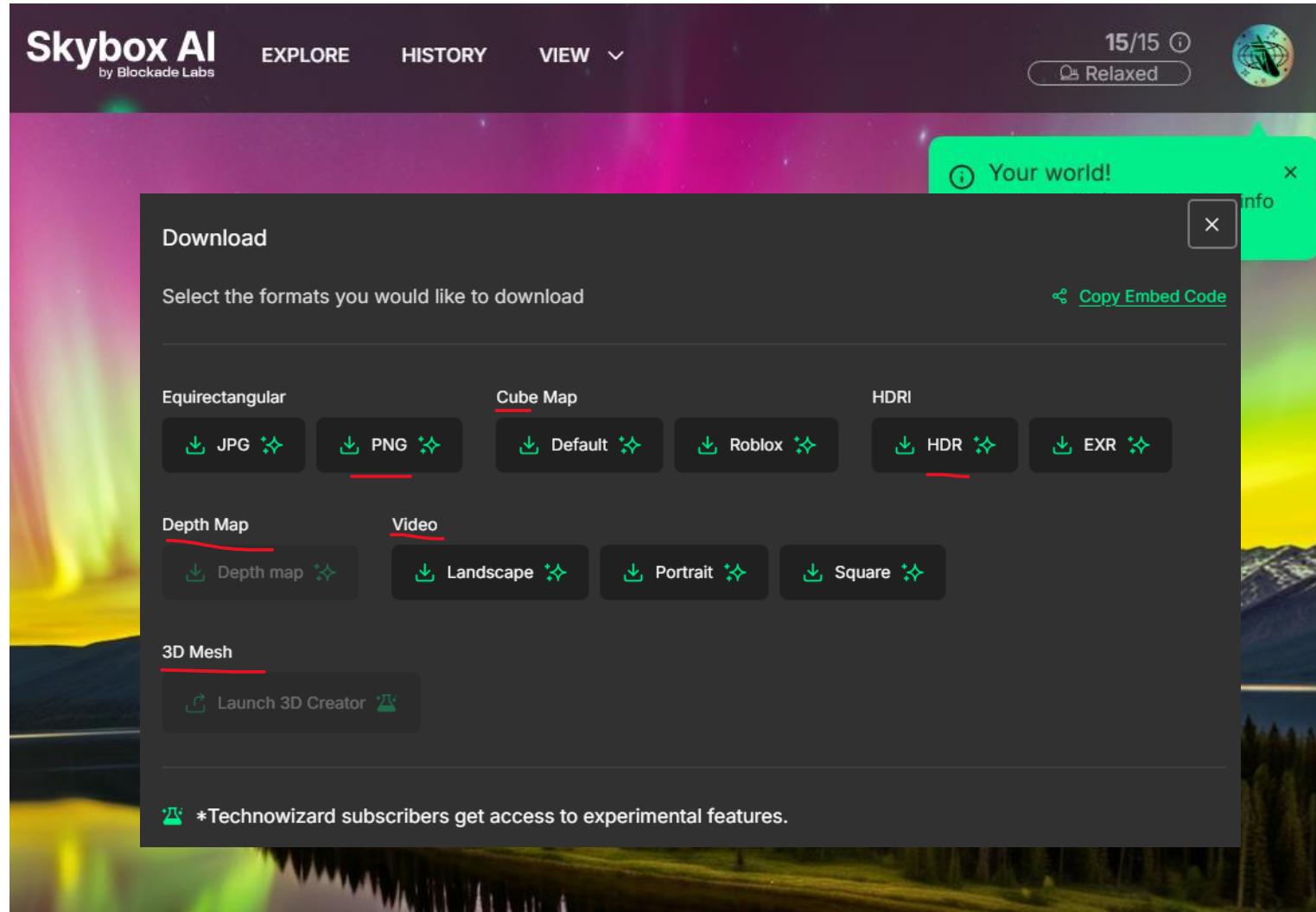
VERAS | EvolveLAB

Architectural Design using Gen AI



Adobe Firefly

Environmental rendering using AI



Skybox AI

Environmental rendering using AI

[Create](#) [Remix](#) [Edit](#) [3D](#) [Create a new world by describing it. Sketch in guides if you like.](#) [Heart](#) [Download](#) [Share](#)

An open, futuristic interior with organic, flowing architecture. Smooth, curved white walls and ceilings echo the exterior, creating a fluid, airy space. Floor-to-ceiling glass walls allow natural light to flood in, illuminating sleek, minimalist furnishings in white and light gray. Polished marble floors add elegance, while built-in LED lighting highlights architectural curves. Floating sofas, suspended lights, and hidden storage create a clutter-free look, with subtle greenery adding warmth to the modern aesthetic.

522/600

Negative Text Enhance Prompt

M3 UHD Render

GENERATE



Skybox AI

AI-Powered Architecture Rendering

AI-Powered Architecture Design | How to use AI within 3d rendering software

AI-powered architecture design is revolutionizing the industry, offering designers a new toolkit to enhance creativity and efficiency. With the release of D5 Render version 2.8, these innovations are more accessible and powerful than ever.



AI utilizes a neural network algorithm

AI-Powered Architecture Design

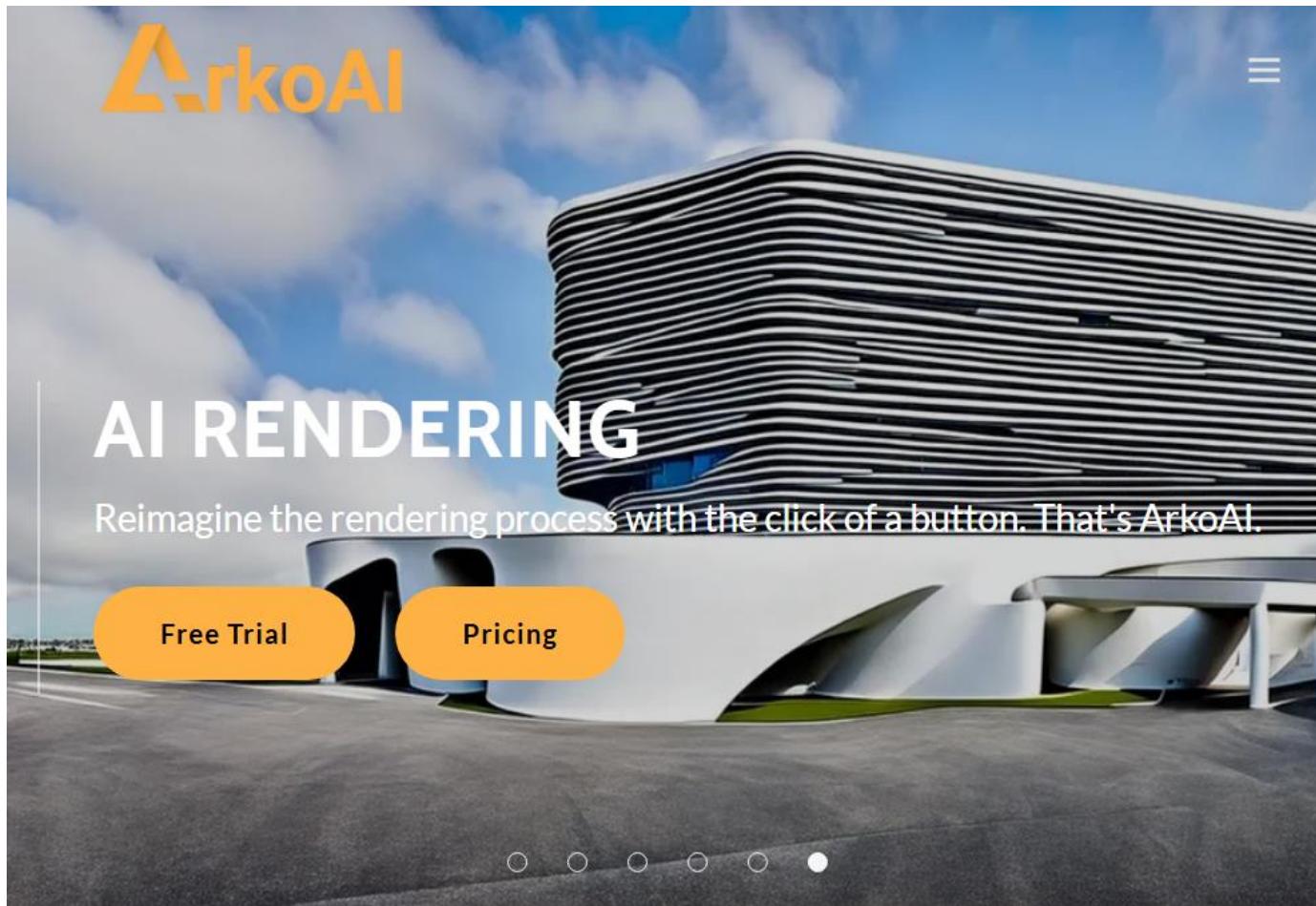
Video generation

Dream **MACHINE**



Luma Dream Machine | AI Video Generator

AI rendering process



[ArkoAI - Home](#)

Hand-drawn sketches to 3D model

PromeAI AI Tools Inspiration Solutions Community Pricing Affiliate Log in / Sign up

Our ai image generator can visualize with different design concepts and get high-quality realistic renderings from hand-drawn sketches or 3D model designs. Experience the transformative capabilities of AI as your concepts take shape and come alive in stunning and lifelike renderings.

The website features a dark header with navigation links for AI Tools, Inspiration, Solutions, Community, Pricing, Affiliate, Log in / Sign up, and icons for user profile, cart, and globe. Below the header is a main text area describing the AI's capabilities. The main content area displays a grid of 8 examples, each showing a 'Before' sketch on the left and a 'After' 3D rendering on the right. The examples are categorized as follows:

- Sneaker:** A white and blue sneaker.
- Japanese Traditional:** A traditional Japanese residence with a tiled roof and wooden elements.
- Modern:** A modern living room with a sofa, coffee table, and bookshelf.
- General:** A bedroom interior.
- Living room:** A living room with a sofa and fireplace.
- Clouds:** A landscape featuring a large, wispy cloud formation.
- House:** A modern house with large windows and a wooden facade.
- Skyscraper:** A futuristic skyscraper with curved, reflective glass panels.

[PromeAI - Free AI art generator : Bring creativity to life](#)

Hand-drawn sketches to design

Discover & Remix **Generation & History** Assets

Image ②

Prompt

A modern living room space, inspired by Ukrainian design style, with a floor height of 5 meters, considering the relationship between space and people and the environment, and the lighting effect during the day

Reference Image ②

Tool Companions ②

Options

V1 V2

Style Scene

The screenshot displays the PromeAI interface. On the left, there's a sidebar with various icons (House, AI, 3D Model, etc.) and sections for 'Image' (with a preview), 'Prompt' (containing a detailed description of a modern living room), 'Reference Image' (with a preview), and 'Options' (with tabs for 'Style' and 'Scene'). The main area features a navigation bar with 'Discover & Remix', 'Generation & History' (which is highlighted in blue), and 'Assets'. Below the navigation is a large image of a modern living room interior. Underneath this image are several icons for editing and sharing. Further down are three smaller images of the same living room scene from different angles, labeled 'Tool Companions'. The overall theme is a modern, minimalist design.

[PromeAI - Free AI art generator : Bring creativity to life](#)

AI for Sustainable Design

The screenshot shows a 3D architectural rendering of a city block. Buildings are represented by white wireframe models, while trees and other greenery are shown as green cylinders. A large circular wind rose diagram in the bottom right corner indicates wind direction and speed, with a legend showing 0, 2, 4, 6, 8, and 10 m/s. To the left, a sidebar titled 'Proposals' lists several projects: 'Verlaine Today, 9:04 PM', 'Verlaine - 3D Sketch 2 Oct 20', 'Tamira Oct 18', and 'kjell debugger bare... Oct 18'. Below that is the 'Layers' section, which includes Site limits, Buildings, Vegetation, Generic, Zones, Terrain, IGN Context, Roads, Property boundaries, and Railroads. On the far right, there are sections for 'Detailed wind' (Wind area radius 150 m) and 'Rapid wind' (Rapid wind RAPID K). A message at the bottom states: 'Real-time analysis informs your design impact. Leveraging machine learning models to give real-time results.'

Patriarche, a multidisciplinary architecture firm, has transformed its early-stage urban planning by adopting Autodesk Forma. Traditional software was too slow for initial project phases, so Forma's AI-powered capabilities helped reduce the time for volume studies from two days to just one-and-a-half hours, allowing the team to focus on more complex design elements.

Autodesk Forma

Layout generation using AI

Discover our comprehensive suite of design tools from client briefs to moodboard + layout generation, design inspiration to catalog match, AI enhanced visualization on your projects.



Instant Finish

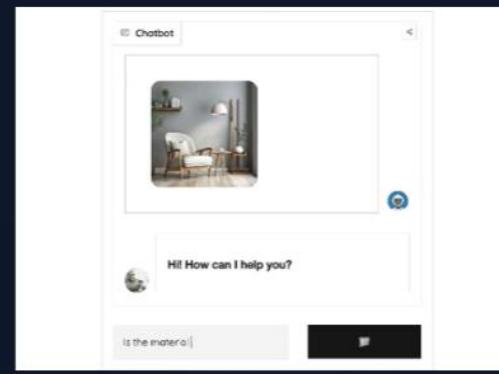
Experiment real materials in your room or your client's room.

Fast and precise. Apply textures with photorealistic quality and accurate perspective in any surface.



Chat with Your Product

Dynamically interact with your products, optimizing customer service and providing instant, detailed information. Leverage our Multimodal Chat API to facilitate this direct and efficient connection.

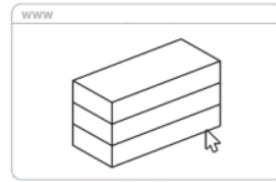


3D Guru

AI optimized design development with BIM

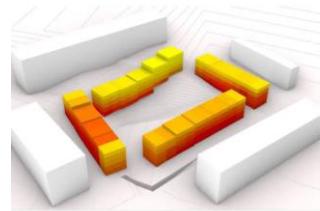
AI Architecture Generator in Real-Time

INPUT



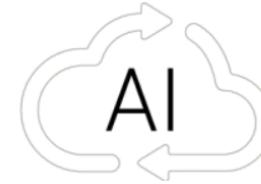
I.-Introduction of Design Criteria and Modelling

The user inputs the design criteria that the project must meet and defines and models the solution online in an easy and intuitive way in 2D and 3D.



Environmental Responsiveness

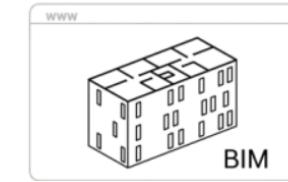
The system provides an extensive simulation of the building performance in real-time, allowing detailed knowledge of the passive behavior throughout the year. This data is used to provide the building and units layout with the best environmental performance that meet the user's design criteria.



2.-AI Optimized Design Development

Our cloud-based IA system generates in real-time the geometry that best fits the parameters entered for each user iteration.

OUTPUT



3.-Generation of the BIM solution and Project Data

The platform shows in real-time the resulting BIM solution and all its metrics to be later downloaded in XLSX, DXF, and IFC formats.



Architectures - AI
Architecture Generator,
Building Design

Generating Design Alternatives



The Plan Generator allows users to specify room dimension & adjacency constraints, generate design options and export designs in DXF format. Maket's virtual assistant provides guidance on materials, costs and design possibilities.

The screenshot shows the Maket web application interface for generating floor plans. At the top, there is a header with the Maket logo, a progress bar indicating "1 of 3", and an "UPGRADE TO PREMIUM" button. Below the header, the project name "Test" is displayed. The main interface consists of a table where users can input room dimensions and adjacency constraints. The table columns are labeled "TYPE", "X (FEET)", "Y (FEET)", "FLOOR", and "NEXT TO (OPTIONAL)".

Rooms Input:

Type	X (Feet)	Y (Feet)	Floor	Next To (Optional)
Bedroom	12	12	1	Bedroom 2, Bathroom 1
Bedroom	10	10	1	Bedroom 1
Bathroom	8	8	1	Bedroom 1
Bathroom	10			

Bottom Navigation Bar:

- My Designs
- Floorplan Generator (selected)
- Visualizer
- Interior

Help and Support:

- A "Help" button with a speech bubble icon.
- A "Select" dropdown menu.

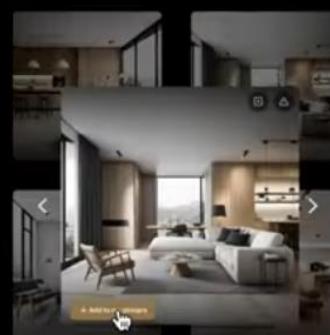
Automated Design Generation



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Generative Design for Architectural Planning



Generative Design | Architecture Design Software | Maket

AI for Schematic Designs Feasibility Studies



Home Solution Resources About Contact Us

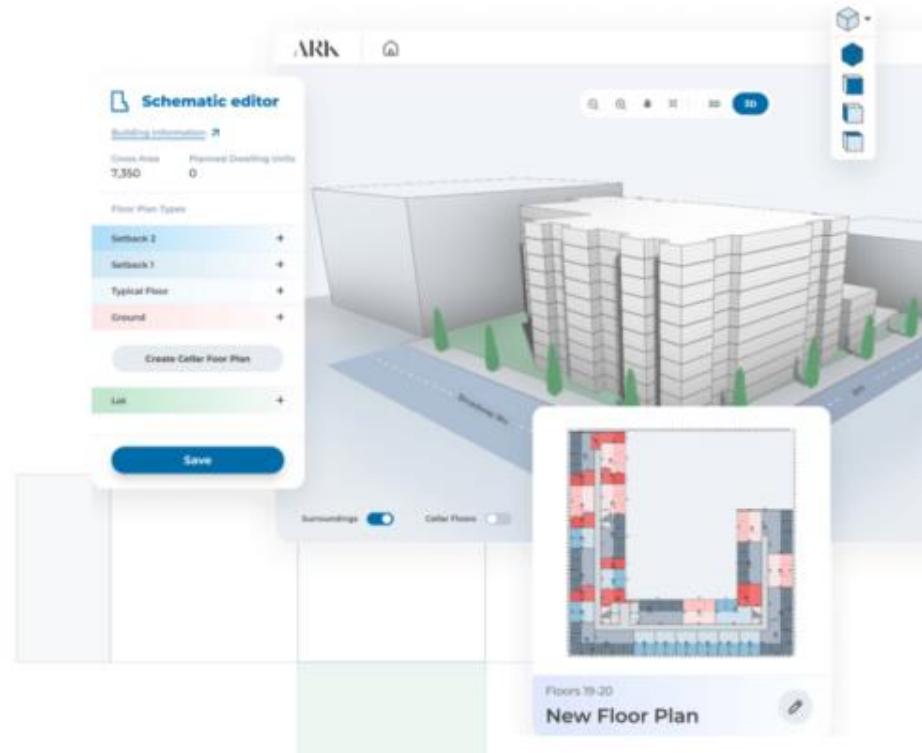
Create Optimized Floor Plans Fast & Efficiently

The first AI platform for creating architectural schematic design.

Optimize profitability, density and living standards while meeting all code regulations.

[Schedule a Demo](#)

[Watch Now](#)



[Homepage - Ark](#)

AI for Sustainable Design

Products ▾ Support ▾ Learn ▾ Community ▾

Spacemaker

Spacemaker: Early-stage planning, reimaged

Design better cities with outcome-based design

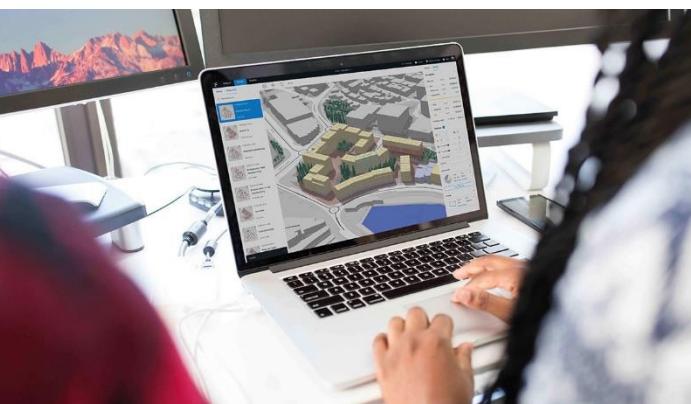
Already have an account? [Sign in](#)

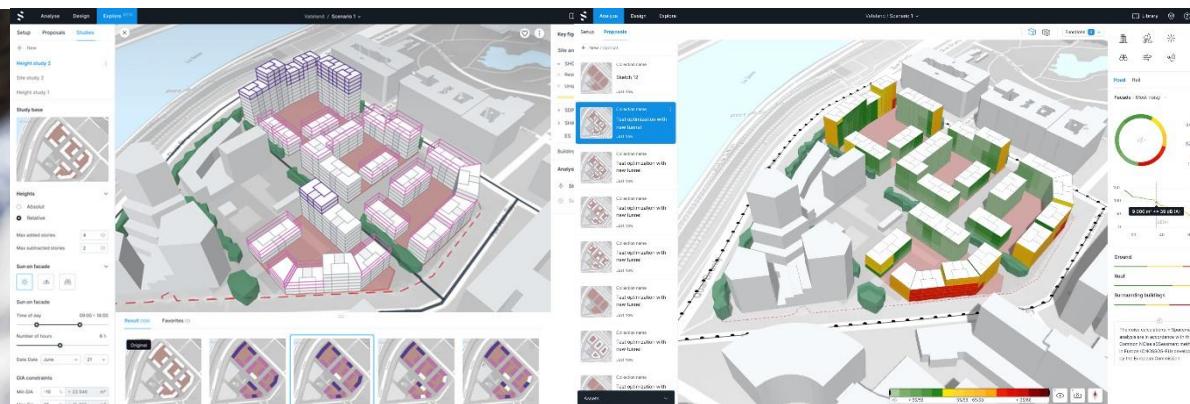
[Start free trial](#) [Contact sales](#)

[Talk to our sales team. Financing options available. 1-855-664-8618](#)



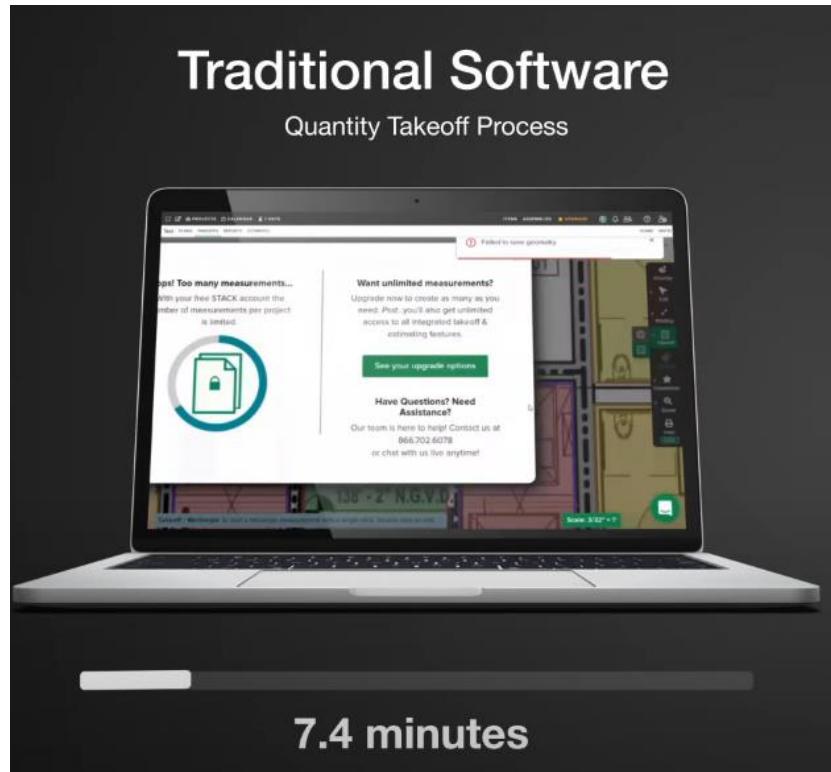
Overview Benefits Capabilities Customer Stories Webinars Resources FAQs





Spacemaker | Autodesk

AI-powered pre-construction software helping estimators



The Ultimate AI Companion for Estimators
| Togal.AI

Open source

Github

The screenshot shows the GitHub homepage. At the top, there's a header bar with the GitHub logo, a search bar, and navigation links for Pull requests, Issues, Marketplace, and Explore. A notification bell icon is also present. Below the header, a large green banner features the text "Learn Git and GitHub without any code!" and a description of the Hello World guide. Two buttons are available: a green "Read the guide" button and a white "Start a project" button. In the bottom left corner, there's a sidebar with a message about updated Terms of Service and Privacy Statement, a "New repository" button, and a search bar labeled "Find a repository...". The main content area displays a list of repositories under the heading "Discover interesting projects and people to populate your personal news feed." It includes a button to "Explore GitHub".

GitHub, Inc. [US] | <https://github.com>

Search or jump to... / Pull requests Issues Marketplace Explore

Learn Git and GitHub without any code!

Using the Hello World guide, you'll create a repository, start a branch, write comments, and open a pull request.

Read the guide Start a project

Our new Terms of Service and Privacy Statement are in effect. [X](#)

Browse activity Discover repositories

Repositories [New repository](#)

Find a repository...

mac999/Books
mac999/Automation
mac999/Robot
mac999/CauFEM
mac999/Projects
mac999/DeepLearning

Discover interesting projects and people to populate your personal news feed.

Your news feed helps you keep up with recent activity on repositories you [watch](#) and people you [follow](#).

[Explore GitHub](#)

Github

A screenshot of a user profile page on Github. At the top, there's a search bar and navigation links for Pull requests, Issues, Marketplace, and Explore. Below the header, the user's profile picture and name "Tae wook" are displayed, followed by the handle "mac999". A bio section states: "Ph.D. Senior researcher in KICT. Writer about 11 books including two e-books such as BIM principle, Civil BIM, platform, vision, reverse engineering." There's a "Edit bio" button. To the right, there are sections for pinned repositories: "Automation" (Rhino addin tool), "Books" (CSS), "DeepLearning" (forked from tensorflow/models), "Projects" (Python, VHDL), and "Robot" (C++). A note says "You can now pin up to 6 repositories." Below these is a chart showing "25 contributions in the last year" with a timeline from July to July.

A screenshot of a repository page on Github. The top navigation bar shows the repository owner "mac999 / Automation" and tabs for Code, Issues (0), Pull requests (0), and Projects (1). The "Code" tab is selected. It shows the branch "master" and the repository path "Automation / OpenSlicer /". The main content area lists files and folders: "Delete OpenSlicer.v12.suo", "Properties", "bin", "obj", "AddSurfacePoints.cs", "DelPoints.cs", "GetSurfacePoints.cs", "OpenSlicer.csproj", "OpenSlicer.csproj.user", "OpenSlicer.sln", "OpenSlicer.suo", "OpenSlicerBrep.cs", and "OpenSlicerPlugIn.cs".

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- 라이선스 / 저작권만 명시 조건

Example



Control net.ipynb - Colab



```
(venv_tf2) ktw@ktw-Vector-GP66-12UH:/projects/gen_ai_gpt$ python3 gen_ai_gpt.py --query="달의 위를 두발로 걷고 있는 우주복 입은 치즈태비 고양이를 묘사해줘." --style="realistic lighting, ultra-detailed, 8K, photorealism" --output="./image.png"
```

치즈태비 고양이는 우주복을 입고 있으며, 달의 위를 가벼운 두발로 걷고 있습니다. 그 눈은 밝게 빛나며 호기심어린 표정을 지니고 있습니다. 털은 투명한 우주복과 어우러져 맑고 깨끗한 느낌을 줍니다. 치즈태비 고양이의 뒤로는 큰 암순을 포개어 보내는 지구가 보입니다. 이상한 광경에도 불구하고, 그 고양이는 마치 일상적인 산책을 하듯이 편안한 모습으로 걷고 있습니다.

A cheese tabby cat wearing a space suit walked on the moon, looking around with curious eyes.

LLM & Spreadsheet processing

```
1 import os
2 import pandas as pd
3 from pandasai import Agent
4
5 sales_by_country = pd.DataFrame({
6     "country": ["United States", "United Kingdom", "France", "Germany",
7                 "Italy", "Spain", "Canada", "Australia", "Japan", "China"],
8     "revenue": [5000, 3200, 2900, 4100, 2300, 2100, 2500, 2600, 4500, 7000]
9 })
10
11 os.environ["PANDASAI_API_KEY"] = " "
12
13 agent = Agent(sales_by_country)
14 answer = agent.chat('Which are the top 5 countries by sales?')
15 print(answer)
```



```
(venv_llm) PS F:\projects\pandas_ai> & C:/Users/MAC/.conda/envs/venv_llm/p
ython.exe f:/projects/pandas_ai/test.py
The top 5 countries by sales are: China, United States, Japan, Germany, Un
ited Kingdom
```

Huggingface

Hugging Face

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Models

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Spaces

Discover amazing AI apps made by the community!

Create new Space

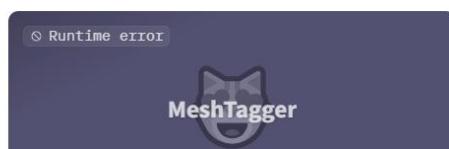
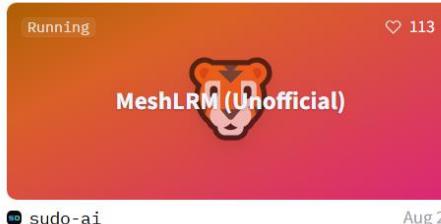
or [Learn more about Spaces](#)

mesh

Browse [ZeroGPU Spaces](#)

Full-text search

↑ Sort: Trending



https://huggingface.co/new_space

Create a new Space

Spaces are Git repositories that host application code for Machine Learning demos. You can build Spaces with Python libraries like Streamlit or Gradio, or using Docker images.

Owner	Space name
mac999	New Space name
Short description	Short Description
License	License

Select the Space SDK
You can choose between Streamlit, Gradio and Static for your Space. Or pick Docker to host any other app.

Streamlit

Gradio 3 templates

Docker 15 templates

Static 3 templates

Image to 3D mesh

Spaces

shariqfarooq/ZoeDepth

like 685

Running on A10G

⋮

Depth Prediction

Image to 3D

360 Panorama to 3D

Image to 3D mesh

Convert a single 2D image to a 3D mesh



Keep occlusion edges

Submit



Image to 3D mesh

Spaces

shariqfarooq/ZoeDepth

like 685

Running on A10G

⋮

Depth Prediction

Image to 3D

360 Panorama to 3D

Panorama to 3D mesh

Convert a 360 spherical panorama to a 3D mesh

ZoeDepth was not trained on panoramic images. It doesn't know anything about panoramas or spherical projection. Here, we just treat the estimated depth as radius and some projection errors are expected. Nonetheless, ZoeDepth still works surprisingly well on 360 reconstruction.

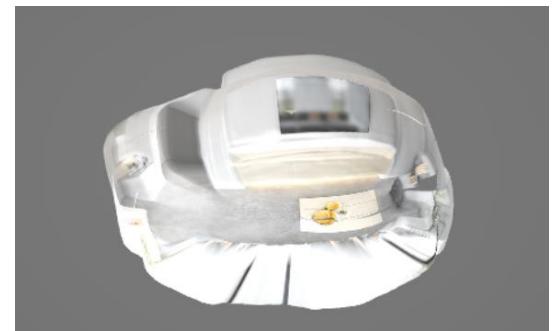
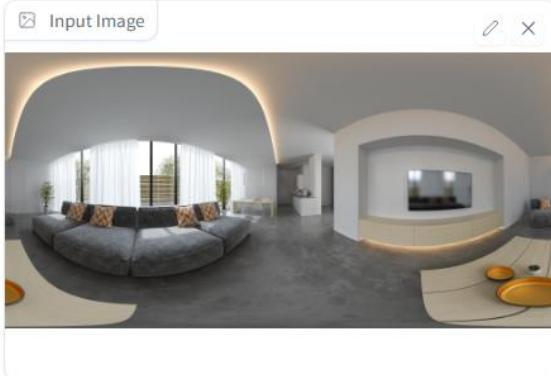


Image to 3D mesh

Spaces · TencentARC / InstantMesh · like 1.15k · Running on ZERO

InstantMesh: Efficient 3D Mesh Generation from a Single Image with Sparse-view Large Reconstruction Models

InstantMesh is a feed-forward framework for efficient 3D mesh generation from a single image based on the LRM/Instant3D architecture.

Code: [GitHub](#). Technical report: [ArXiv](#).

Important Notes:

- Our demo can export a .obj mesh with vertex colors or a .glb mesh now. If you prefer to export a .obj mesh with a texture map, please refer to our [Github Repo](#).
- The 3D mesh generation results highly depend on the quality of generated multi-view images. Please try a different seed value if the result is unsatisfying (Default: 42).

The screenshot shows the InstantMesh web application interface. On the left, there is an "Input Image" panel displaying a photograph of a modern, white, organic-shaped building. Below it are several control sliders: "Remove Background" (checked), "Seed Value" (set to 42), and "Sample Steps" (set to 75). In the center, there is a "Processed Image" panel showing a semi-transparent 3D mesh of the building. To the right, there is a "Generated Multi-views" panel displaying six smaller views of the same 3D mesh from different angles. At the bottom right, there is an "Output Model" section with tabs for "OBJ" and "GLB", and a preview image of the 3D mesh.

Private LLM ollama & VLM



ollama run llama3.2-vision
what is this figure? ./zaha_ddp.jpg

```
>>> what is this figure? ./zaha_ddp.jpg
```

Added image './zaha_ddp.jpg'

The image appears to be an interior view of a large, modern building with white architecture seems futuristic and minimalist, with clean lines and curves.

Upon closer inspection, it's possible that the image depicts a public space or building, such as a lobby, atrium, or hallway. The overall aesthetic suggests design, possibly intended to evoke feelings of calmness and serenity in those

이미지는 흰색 벽과 바닥이 있는 크고 현대적인 건물의 내부를 보여주는 것처럼 보입니다. 건축물은 미래적이고 미니멀하며, 선과 곡선이 깔끔합니다.

자세히 살펴보면 이미지가 로비, 아트리움 또는 복도와 같이 건물 내부의 공공 공간이나 상업 구역을 묘사한 것일 수 있습니다. 전반적인 미학은 현대적이고 세련된 디자인을 시사하는데, 아마도 공간에 들어오는 사람들에게 차분함과 평온함을 불러일으키기 위한 의도일 것입니다.

이미지는 흰색 벽과 바닥이 있는 크고 열린 공간을 보여줍니다. 천장도 흰색이고 천장 가장자리를 따라 여러 줄의 리세스 조명이 있습니다. 방 중앙에는 공간을 두 구역으로 나누는 길고 곡선형 벽이 있습니다. 벽에는 길이를 따라 일련의 창문이 있어 자연광이 방으로 들어올 수 있습니다.

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Coding in Architecture from GenAI

Rhino 모델러는 파이썬 스크립트 엔진을 내장하고 있어.
원 두개를 그리고, 이를 sweeping해서 비정형적인 건물
메스를 디자인하는 코드를 만들어줘

다음은 Rhino 모델러에서 **Python** 스크립트를 사용하여 두 개의 원을 그리고 이를
스위핑(sweeping)하여 비정형적인 건물 메스를 생성하는 코드 예제입니다.

Rhino의 **RhinoScriptSyntax**를 활용합니다.

Python 스크립트 코드

```
python Copy code
import rhinoscriptsyntax as rs

def create_sweeping_mass():
    # Step 1: Draw two circles
    circle1 = rs.AddCircle((0, 0, 0), 5) # Circle 1 at origin with radius 5
    circle2 = rs.AddCircle((0, 0, 20), 10) # Circle 2 at height 20 with radius 10

    # Step 2: Create a curve for the sweep path (a straight line in this case)
    path = rs.AddLine((0, 0, 0), (0, 0, 20))

    # Step 3: Sweep the circles along the path
    sweep_result = rs.AddSweep1(path, [circle1, circle2])

    # Step 4: Optional - Add random transformations for irregularity
    if sweep_result:
        rs.MoveObject(sweep_result, (5, 5, 5)) # Move the mass slightly
        rs.RotateObject(sweep_result, (0, 0, 0), 15) # Rotate for asymmetry

    # Step 5: Cleanup the input geometry (optional)
    rs.DeleteObject(circle1)
    rs.DeleteObject(circle2)
    rs.DeleteObject(path)

    print("Sweeping completed! Check your viewport.")

# Run the function
create_sweeping_mass()
```

The screenshot shows the Rhino Python Script Editor window. The title bar reads 'E:\projects\Rhino_script\CircleFromLength.py'. The editor interface includes a toolbar with icons for file operations, a status bar, and a bottom pane for output messages. The main code area contains the Python script provided above. The output pane at the bottom displays the message 'Sweeping completed! Check your viewport.'.

```
E:\projects\Rhino_script\CircleFromLength.py
Tools Help
CircleFromLength.py CircleFromLength.py CurveLength.py
1 import rhinoscriptsyntax as rs
2
3 def create_sweeping_mass():
4     # Step 1: Draw two circles
5     circle1 = rs.AddCircle((0, 0, 0), 5) # Circle 1 at origin with radius 5
6     circle2 = rs.AddCircle((0, 0, 20), 10) # Circle 2 at height 20 with radius 10
7
8     # Step 2: Create a curve for the sweep path (a straight line in this case)
9     path = rs.AddLine((0, 0, 0), (0, 0, 20))
10
11    # Step 3: Sweep the circles along the path
12    sweep_result = rs.AddSweep1(path, [circle1, circle2])
13
14    # Step 4: Optional - Add random transformations for irregularity
15    if sweep_result:
16        rs.MoveObject(sweep_result, (5, 5, 5)) # Move the mass slightly
17        rs.RotateObject(sweep_result, (0, 0, 0), 15) # Rotate for asymmetry
18
19    # Step 5: Cleanup the input geometry (optional)
20    rs.DeleteObject(circle1)
21    rs.DeleteObject(circle2)
22    rs.DeleteObject(path)
23
24    print("Sweeping completed! Check your viewport.")
25
26 # Run the function
27 create_sweeping_mass()
28
weeping completed! Check your viewport.
```

Coding in Architecture from GenAI

```
import rhinoscriptsyntax as rs

def create_sweeping_mass():
    # Step 1: Draw two circles
    circle1 = rs.AddCircle((0, 0, 0), 5) # Circle 1
    circle2 = rs.AddCircle((0, 0, 20), 10) # Circle 2

    # Step 2: Create a curve for the sweep path (a line)
    path = rs.AddLine((0, 0, 0), (0, 0, 20))

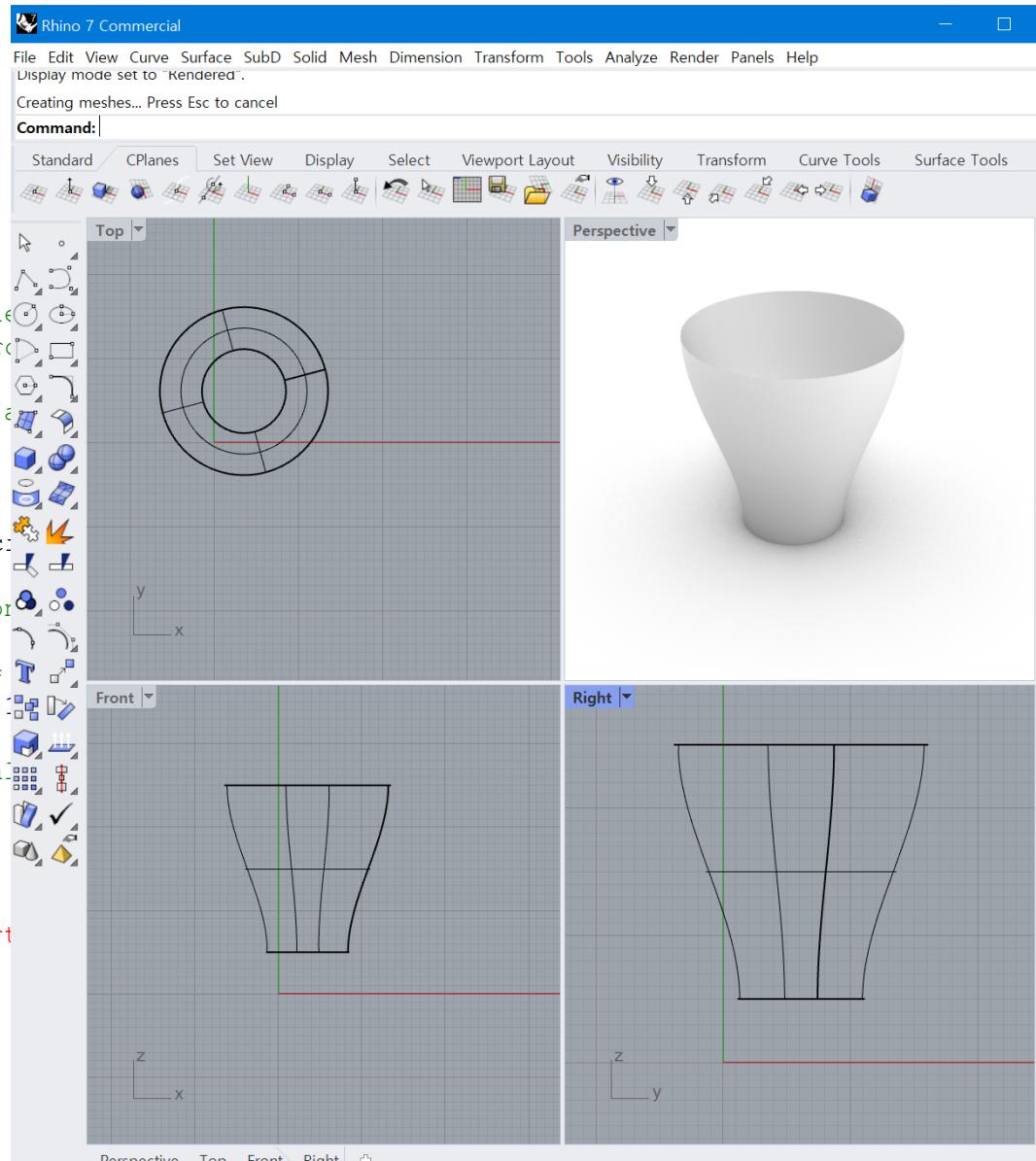
    # Step 3: Sweep the circles along the path
    sweep_result = rs.AddSweep1(path, [circle1, circle2])

    # Step 4: Optional - Add random transformations
    if sweep_result:
        rs.MoveObject(sweep_result, (5, 5, 5)) #
        rs.RotateObject(sweep_result, (0, 0, 0), 45)

    # Step 5: Cleanup the input geometry (optional)
    rs.DeleteObject(circle1)
    rs.DeleteObject(circle2)
    rs.DeleteObject(path)

    print("Sweeping completed! Check your viewport")

# Run the function
create_sweeping_mass()
```



Coding in Architecture from GenAI

Copilot과 소통하여 사용 약관에 동의하고 개인정보처리방침을 검토했는지 확인하게 됩니다.



+

Copilot에 메시지