Model3D

```
gradio.Model3D(···)
```

Description

Component allows users to upload or view 3D Model files (.obj, .glb, or .gltf).

Behavior

As input: This component passes the uploaded file as a `str` filepath.

As output: expects function to return a `str` or `pathlib.Path` filepath of type (.obj, glb, or .gltf)

Initialization

Parameter	Description
`value` *str	Callable	None* **default: None**	path to (.obj, glb, or .gltf) file to show in model3D viewer. If callable, the function will be called whenever the app loads to set the initial value of the component.
`clear_color` *tuple[float, float, float, float]	None* **default: None**	background color of scene, should be a tuple of 4 floats between 0 and 1 representing RGBA values.
`camera_position` *tuple[int	float	None, int	float	None, int	float	None]* **default: (None, None, None)**	initial camera position of scene, provided as a tuple of `(alpha, beta, radius)`. Each value is optional. If provided, `alpha` and `beta` should be in degrees reflecting the angular position along the longitudinal and latitudinal axes, respectively. Radius corresponds to the distance from the center of the object to the camera.

ımeter	Description
`zoom_speed` *float* **default: 1**	the speed of zooming in and out of the scene when the cursor wheel is rotated or when screen is pinched on a mobile device. Should be a positive float, increase this value to make zooming faster, decrease to make it slower. Affects the wheelPrecision property of the camera.
`pan_speed` *float* **default: 1**	the speed of panning the scene when the cursor is dragged or when the screen is dragged on a mobile device. Should be a positive float, increase this value to make panning faster, decrease to make it slower. Affects the panSensibility property of the camera.
`height` *int* | *str* | *None* **default: None**	The height of the model3D component, specified in pixels if a number is passed, or in CSS units if a string is passed.
`label` *str* | *None* **default: None**	The label for this component. Appears above the component and is also used as the header if there are a table of examples for this component. If None and used in a `gr.Interface`, the label will be the name of the parameter this component is assigned to.
`show_label` *bool* | *None* **default: None**	if True, will display label.
`every` *float* | *None* **default: None**	If `value` is a callable, run the function 'every' number of seconds while the client connection is open. Has no effect otherwise. Queue must be enabled. The event can be accessed (e.g. to cancel it) via this component's .load_event attribute.
`container` *bool* **default: True**	If True, will place the component in a container - providing some extra padding around the border.

ımeter	Description
`scale` *int* | *None* **default: None**	relative width compared to adjacent Components in a Row. For example, if Component A has scale=2, and Component B has scale=1, A will be twice as wide as B. Should be an integer.
`min_width` *int* **default: 160**	minimum pixel width, will wrap if not sufficient screen space to satisfy this value. If a certain scale value results in this Component being narrower than min_width, the min_width parameter will be respected first.
`interactive` *bool* | *None* **default: None**	if True, will allow users to upload a file; if False, can only be used to display files. If not provided, this is inferred based on whether the component is used as an input or output.
`visible` *bool* **default: True**	If False, component will be hidden.
`elem_id` *str* | *None* **default: None**	An optional string that is assigned as the id of this component in the HTML DOM. Can be used for targeting CSS styles.
`elem_classes` *list[str]* | *str* | *None* **default: None**	An optional list of strings that are assigned as the classes of this component in the HTML DOM. Can be used for targeting CSS styles.
`render` *bool* **default: True**	If False, component will not render be rendered in the Blocks context. Should be used if the intention is to assign event listeners now but render the component later.

Shortcuts

Class	Interface String Shortcut	Initialization
`gradio.Model3D`	"model3d"	Uses default values

model3D

```
import gradio as gr
import os


def load_mesh(mesh_file_name):
    return mesh_file_name


demo = gr.Interface(
    fn=load_mesh,
    inputs=gr.Model3D(),
```

Event Listeners

Description

Event listeners allow you to capture and respond to user interactions with the UI components you've defined in a Gradio Blocks app. When a user interacts with an element, such as changing a slider value or uploading an image, a function is called.

Supported Event Listeners

The `Model3D` component supports the following event listeners. Each event listener takes the same parameters, which are listed in the Event Arguments table below.

Listener	Description
`gradio.Model3D.change(fn, ...)`	Triggered when the value of the Model3D changes either because of user input (e.g. a user types in a textbox) OR because of a function update (e.g. an image receives a value from the output of an event trigger). See `.input()` for a listener that is only triggered by user input.
`gradio.Model3D.upload(fn, ...)`	This listener is triggered when the user uploads a file into the Model3D.
`gradio.Model3D.edit(fn, ...)`	This listener is triggered when the user edits the Model3D (e.g. image) using the built-in editor.

Listener	Description
`gradio.Model3D.clear(fn, ···)`	This listener is triggered when the user clears the Model3D using the X button for the component.

Event Arguments

Parameter	Description
`fn` *Callable	None	Literal['decorator']* **default: "decorator"**	the function to call when this event is triggered. Often a machine learning model's prediction function. Each parameter of the function corresponds to one input component, and the function should return a single value or a tuple of values, with each element in the tuple corresponding to one output component.
`inputs` *Component	list[Component]	set[Component]	None* **default: None**	List of gradio.components to use as inputs. If the function takes no inputs, this should be an empty list.
`outputs` *Component	list[Component]	None* **default: None**	List of gradio.components to use as outputs. If the function returns no outputs, this should be an empty list.
`api_name` *str	None	Literal[False]* **default: None**	defines how the endpoint appears in the API docs. Can be a string, None, or False. If set to a string, the endpoint will be exposed in the API docs with the given name. If None (default), the name of the function will be used as the API endpoint. If False, the endpoint will not be exposed in the API docs and downstream apps (including those that `gr.load` this app) will not be able to use this event.
`scroll_to_output` *bool* **default: False**	If True, will scroll to output component on completion

Parameter	Description
`show_progress` *Literal[('full', 'minimal', 'hidden')]* **default: "full"**	If True, will show progress animation while pending
`queue` *bool | None* **default: None**	If True, will place the request on the queue, if the queue has been enabled. If False, will not put this event on the queue, even if the queue has been enabled. If None, will use the queue setting of the gradio app.
`batch` *bool* **default: False**	If True, then the function should process a batch of inputs, meaning that it should accept a list of input values for each parameter. The lists should be of equal length (and be up to length `max_batch_size`). The function is then ***required*** to return a tuple of lists (even if there is only 1 output component), with each list in the tuple corresponding to one output component.
`max_batch_size` *int* **default: 4**	Maximum number of inputs to batch together if this is called from the queue (only relevant if batch=True)
`preprocess` *bool* **default: True**	If False, will not run preprocessing of component data before running 'fn' (e.g. leaving it as a base64 string if this method is called with the `Image` component).
`postprocess` *bool* **default: True**	If False, will not run postprocessing of component data before returning 'fn' output to the browser.

Parameter	Description
`cancels` *dict[str, Any] | list[dict[str, Any]] | None* **default: None**	A list of other events to cancel when this listener is triggered. For example, setting cancels=[click_event] will cancel the click_event, where click_event is the return value of another components .click method. Functions that have not yet run (or generators that are iterating) will be cancelled, but functions that are currently running will be allowed to finish.
`every` *float | None* **default: None**	Run this event 'every' number of seconds while the client connection is open. Interpreted in seconds. Queue must be enabled.
`trigger_mode` *Literal[('once', 'multiple', 'always_last')] | None* **default: None**	If "once" (default for all events except `.change()`) would not allow any submissions while an event is pending. If set to "multiple", unlimited submissions are allowed while pending, and "always_last" (default for `.change()` event) would allow a second submission after the pending event is complete.
`js` *str | None* **default: None**	Optional frontend js method to run before running 'fn'. Input arguments for js method are values of 'inputs' and 'outputs', return should be a list of values for output components.
`concurrency_limit` *int | None | Literal['default']* **default: "default"**	If set, this is the maximum number of this event that can be running simultaneously. Can be set to None to mean no concurrency_limit (any number of this event can be running simultaneously). Set to "default" to use the default concurrency limit (defined by the `default_concurrency_limit` parameter in `Blocks.queue()`, which itself is 1 by default).
`concurrency_id` *str | None* **default: None**	If set, this is the id of the concurrency group. Events with the same concurrency_id will be limited by the lowest set concurrency_limit.

Parameter	Description
`show_api` *bool* **default: True**	whether to show this event in the "view API" page of the Gradio app, or in the ".view_api()" method of the Gradio clients. Unlike setting api_name to False, setting show_api to False will still allow downstream apps to use this event. If fn is None, show_api will automatically be set to False.

Guides

How To Use 3D Model Component