2D Images to 3D Models (Photogrammetry)

ComfyUI for creating high-quality photorealistic 3D models from 2D images

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Context of use: Education
Level of education: Bachelor

Technology Impact Cycle Tool

2D Images to 3D Models (Photogrammetry)

Impact on society

What impact is expected from your technology?

This category is only partial filled.

What is exactly the problem? Is it really a problem? Are you sure?

The main problem this technology aims to solve is the high cost and environmental impact of traditional product photography. Yes, it is a substantial problem for businesses that rely heavily on product imagery for advertising and e-commerce. Traditional methods are time-consuming, resource-intensive, and often inflexible in responding to rapid market changes. This makes the process more efficient and environmentally friendly, benefiting both businesses and the planet.

Are you sure that this technology is solving the RIGHT problem?

This question has not been answered yet.

How is this technology going to solve the problem?

This question has not been answered yet.

What negative effects do you expect from this technology?

This question has not been answered yet.

In what way is this technology contributing to a world you want to live in?

This question has not been answered yet.

Now that you have thought hard about the impact of this technology on society (by filling out the questions above), what improvements would you like to make to the technology? List them below.

This question has not been answered yet.

Hateful and criminal actors

What can bad actors do with your technology?

This category is only partial filled.

In which way can the technology be used to break the law or avoid the consequences of breaking the law?

The technology could be used to generate realistic but false images, potentially leading to fraud or misinformation.
Enhanced capabilities for creating realistic images might be misused to fabricate identities or impersonate individuals.
If personal data is involved, the technology could be used to infringe on individuals' privacy, especially if used without consent.

Can fakers, thieves or scammers abuse the technology?

This question has not been answered yet.

Can the technology be used against certain (ethnic) groups or (social) classes?

This question has not been answered yet.

In which way can bad actors use this technology to pit certain groups against each other? These groups can be, but are not constrained to, ethnic, social, political or religious groups.

This question has not been answered yet.

How could bad actors use this technology to subvert or attack the truth?

This question has not been answered yet.

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Privacy

Are you considering the privacy & personal data of the users of your technology?

This category is only partial filled.

Does the technology register personal data? If yes, what personal data?

The technology itself does not inherently register personal data. However, it processes images that could potentially include personal data if individuals are depicted. If images of people are used without proper consent, it could lead to privacy violations. Thus, it is crucial to ensure all data used is either non-personal or has obtained explicit consent from the individuals depicted.

Do you think the technology invades the privacy of the stakeholders? If yes, in what way?

This question has not been answered yet.

Is the technology is compliant with prevailing privacy and data protection law? Can you indicate why?

This question has not been answered yet.

Does the technology mitigate privacy and data protection risks/ concerns (privacy by design)? Please indicate how.

This question has not been answered yet.

In which way can you imagine a future impact of the collection of personal data?

This question has not been answered yet.

Now that you have thought hard about privacy and data protection, what improvements would you like to make? List them below.

This question has not been answered yet.

Human values

How does the technology affect your human values?

This category is only partial filled.

How is the identity of the (intended) users affected by the technology?

The technology empowers users by providing them with tools to create high-quality visual content more efficiently. This can enhance their professional identity and reputation.
It fosters new ways for Users can perform tasks traditionally done by photographers and graphic designers, potentially shifting their professional roles and reducing the need for specialized skills in these areas.

How does the technology influence the users' autonomy?

This question has not been answered yet.

What is the effect of the technology on the health and/or well-being of users?

This question has not been answered yet.

Now that you have thought hard about the impact of your technology on human values, what improvements would you like to make to the technology? List them below.

This question has not been answered yet.

Stakeholders

Have you considered all stakeholders?

This category is only partial filled.

Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by answering these questions.

Name of the stakeholder
Advertisement Agencies

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
E-commerce Business

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
Graphic Designers & Content Creators

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
Consumers

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
Investors

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Name of the stakeholder
Technology Developers

How is this stakeholder affected?
-

Did you consult the stakeholder?
No

Are you going to take this stakeholder into account?
No

Did you consider all stakeholders, even the ones that might not be a user or target group, but still might be of interest?
-

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.
This question has not been answered yet.

Data

Is data in your technology properly used?

This category is only partial filled.

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?

Data interpretation can vary, affecting model consistency. Data sets might lack diversity, impacting model generalizability. Historical biases in data can affect the fairness and accuracy of the AI models. Ensuring meaningful representation learning rather than spurious correlations is crucial. Employ diverse and comprehensive data sets. Regularly audit models for bias and performance issues. Implement robust data handling and processing protocols.

How does the technology organize continuous improvement when it comes to the use of data?

This question has not been answered yet.

How will the technology keep the insights that it identifies with data sustainable over time?

This question has not been answered yet.

In what way do you consider the fact that data is collected from the users?

This question has not been answered yet.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Inclusivity

Is your technology fair for everyone?

This category is only partial filled.

Will everyone have access to the technology?

This question has not been answered yet.

Does this technology have a built-in bias?

Data Collection: Bias may arise from non-representative data sets, reflecting existing societal biases.Algorithmic Bias: If not carefully monitored, the algorithms could perpetuate biases present in the training. Regularly evaluate the models for biased outputs. Use diverse data sets to train models. Implement feedback mechanisms to continuously improve and correct biases.

Does this technology make automatic decisions and how do you account for them?

This question has not been answered yet.

Is everyone benefitting from the technology or only a a small group? Do you see this as a problem? Why/why not?

This question has not been answered yet.

Does the team that creates the technology represent the diversity of our society?

This question has not been answered yet.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Transparency

Are you transparent about how your technology works?

This category is only partial filled.

Is it explained to the users/stakeholders how the technology works and how the business model works?

Detailed documentation explaining the functionality and underlying algorithms. Easy-to-understand guides and tutorials for end-users.Clear communication about how data is used and monetized, ensuring user trust and understanding.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?

This question has not been answered yet.

Is it possible to file a complaint or ask questions/get answers about this technology?

This question has not been answered yet.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?

This question has not been answered yet.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Sustainability

Is your technology environmentally sustainable?

This category is only partial filled.

In what way is the direct and indirect energy use of this technology taken into account?

Algorithms should be optimized for energy efficiency. Use of energy-efficient hardware and infrastructure. Incorporating renewable energy sources where feasible and minimizing computational overhead.

Do you think alternative materials could have been considered in the technology?

This question has not been answered yet.

Do you think the lifespan of the technology is realistic?

This question has not been answered yet.

What is the hidden impact of the technology in the whole chain?

This question has not been answered yet.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.

This question has not been answered yet.

Future

Did you consider future impact?

This category is only partial filled.

What could possibly happen with this technology in the future?
Could revolutionize the advertising and e-commerce industries by making high-quality visual content generation more accessible and efficient. Might lead to new norms in digital content creation, with a shift towards AI-generated visuals. Continuous improvements could introduce real-time 3D rendering and interactive content creation capabilities, further enhancing user experience and possibilities.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.
This question has not been answered yet.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.
This question has not been answered yet.

Would you like to live in one of this scenario's? Why? Why not?
This question has not been answered yet.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?
This question has not been answered yet.

Impact Improvement: Now that you have thought hard about the future impact of the technology, what improvements would you like to make? List them below.
This question has not been answered yet.