

Chapter 1 : New and enhanced features | Latest release of Photoshop CC

Simulink 3D Animation provides Simulink blocks and MATLAB objects that allow you to use hardware input devices (3D mice and force-feedback joysticks) to manipulate objects in virtual worlds. The use of these devices, however, is not restricted to objects in virtual scenes.

This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. December Learn how and when to remove this template message Early patents and tests[edit] The stereoscopic era of motion pictures began in the late s when British film pioneer William Friese-Greene filed a patent for a 3D film process. In his patent, two films were projected side by side on screen. The viewer looked through a stereoscope to converge the two images. Because of the obtrusive mechanics behind this method, theatrical use was not practical. Porter and William E. My 50 Years in the Motion Picture Industry, nothing was produced in this process after these tests. Fairall, and cinematographer Robert F. After a preview for exhibitors and press in New York City, the film dropped out of sight, apparently not booked by exhibitors, and is now considered lost. Also in December , Laurens Hammond later inventor of the Hammond organ premiered his Televue system, which had been shown to the trade and press in October. Televue was the first alternating-frame 3D system seen by the public. Using left-eye and right-eye prints and two interlocked projectors , left and right frames were alternately projected, each pair being shown three times to suppress flicker. Viewing devices attached to the armrests of the theater seats had rotary shutters that operated synchronously with the projector shutters, producing a clean and clear stereoscopic result. The only theater known to have installed Televue was the Selwyn Theater in New York City, and only one show was ever presented with it: The show ran for several weeks, apparently doing good business as a novelty M. The first film, entitled Plastigrams, was distributed nationally by Educational Pictures in the red-and-blue anaglyph format. Zowie April 10 , Luna-cy! In Paris, Louis Lumiere shot footage with his stereoscopic camera in September The prints were by Technicolor in the red-and-green anaglyph format, and were narrated by Pete Smith. Unlike its predecessors, this short was shot with a studio-built camera rig. Prints were by Technicolor in red-and-blue anaglyph. The short is notable for being one of the few live-action appearances of the Frankenstein Monster as conceived by Jack Pierce for Universal Studios outside of their company. While many of these films were printed by color systems, none of them was actually in color, and the use of the color printing was only to achieve an anaglyph effect. Land conceived the idea of reducing glare by polarizing light. He took a leave of absence from Harvard to set up a lab and by had invented and patented a polarizing sheet. In January , Land gave the first demonstration of Polaroid filters in conjunction with 3D photography at the Waldorf-Astoria Hotel. Using Polaroid filters meant an entirely new form of projection, however. Two prints, each carrying either the right or left eye view, had to be synced up in projection using an external selsyn motor. Furthermore, polarized light would be largely depolarized by a matte white screen, and only a silver screen or screen made of other reflective material would correctly reflect the separate images. The Italian film was made with the Gualtierotti camera; the two German productions with the Zeiss camera and the Vierling shooting system. All of these films were the first exhibited using Polaroid filters. The Zeiss Company in Germany manufactured glasses on a commercial basis commencing in ; they were also independently made around the same time in Germany by E. In it, a full Chrysler Plymouth is magically put together, set to music. Originally in black and white, the film was so popular that it was re-shot in color for the following year at the fair, under the title New Dimensions[citation needed]. Produced by John Norling, it was filmed by Jacob Leventhal using his own rig. The "golden era" " " [edit] What aficionados consider the "golden era" of 3D began in late with the release of the first color stereoscopic feature, Bwana Devil , produced, written and directed by Arch Oboler. The film was shot in "Natural Vision", a process that was co-created and controlled by M. Gunzberg, who built the rig with his brother, Julian, and two other associates, shopped it without success to various studios before Oboler used it for this feature, which went into production with the title, The Lions of Gulu. During the s, the familiar disposable anaglyph glasses made of cardboard were mainly used for comic books, two shorts by exploitation

specialist Dan Sonney , and three shorts produced by Lippert Productions. However, even the Lippert shorts were available in the dual-strip format alternatively. Quite often, intermission points were written into the script at a major plot point. During Christmas of , producer Sol Lesser quickly premiered the dual-strip showcase called Stereo Techniques in Chicago. The other three films were produced in Britain for Festival of Britain in by Raymond Spottiswoode. James Mage was also an early pioneer in the 3D craze. Another early 3D film during the boom was the Lippert Productions short, A Day in the Country, narrated by Joe Besser and composed mostly of test footage. Unlike all of the other Lippert shorts, which were available in both dual-strip and anaglyph, this production was released in anaglyph only. April saw two groundbreaking features in 3D: House of Wax , the first 3D feature with stereophonic sound. House of Wax , outside of Cinerama , was the first time many American audiences heard recorded stereophonic sound. It was also the film that typecast Vincent Price as a horror star as well as the "King of 3-D" after he became the actor to star in the most 3D features the others were The Mad Magician , Dangerous Mission , and Son of Sinbad. The success of these two films proved that major studios now had a method of getting filmgoers back into theaters and away from television sets, which were causing a steady decline in attendance. The show was hosted by the Mousketeers and was in color. Castle would later specialize in various technical in-theater gimmicks for such Columbia and Allied Artists features as 13 Ghosts , House on Haunted Hill , and The Tingler. Columbia also produced the only slapstick comedies conceived for 3D. Producer Jules White was optimistic about the possibilities of 3D as applied to slapstick with pies and other projectiles aimed at the audience , but only two of his stereoscopic shorts were shown in 3D. Down the Hatch was released as a conventional, "flat" motion picture. Columbia has since printed Down the Hatch in 3D for film festivals. The film was directed by Ireland, who sued Broder for his salary. Broder counter-sued, claiming that Ireland went over production costs with the film. The film was allegedly scribed in an hour by screenwriter Wyatt Ordung and filmed in a period of two weeks on a shoestring budget. Robot Monster also has a notable score by then up-and-coming composer Elmer Bernstein. The film was released June 24, , and went out with the short Stardust in Your Eyes, which starred nightclub comedian, Slick Slavin. Zanuck expressed little interest in stereoscopic systems, and at that point was preparing to premiere the new widescreen film system, CinemaScope. The first decline in the theatrical 3D craze started in August and September The factors causing this decline were: Two prints had to be projected simultaneously. The prints had to remain exactly alike after repair, or synchronization would be lost. It sometimes required two projectionists to keep sync working properly. When either prints or shutters became out of sync, even for a single frame, the picture became virtually unwatchable and accounted for headaches and eyestrain. The necessary silver projection screen was very directional and caused sideline seating to be unusable with both 3D and regular films, due to the angular darkening of these screens. The few cartoons made in 3D had a "cardboard cutout" effect, where 3d cannot process any 2 dimensional objects. Because projection booth operators were at many times careless, even at preview screenings of 3D films, trade and newspaper critics claimed that certain films were "hard on the eyes. Carmenesque, a burlesque number starring exotic dancer Lili St. Although it was more expensive to install, the major competing realism process was anamorphic , first utilized by Fox with CinemaScope and its September premiere in The Robe. Anamorphic features needed only a single print, so synchronization was not an issue. Cinerama was also a competitor from the start and had better quality control than 3D because it was owned by one company that focused on quality control. However, most of the 3D features past the summer of were released in the flat widescreen formats ranging from 1. In early studio advertisements and articles about widescreen and 3D formats, widescreen systems were referred to as "3D", causing some confusion among scholars. There was no single instance of combining CinemaScope with 3D until , with a film called September Storm, and even then, that was a blow-up from a non-anamorphic negative. Kate was the hill over which 3D had to pass to survive. MGM tested it in six theaters: The film also prominently promoted its use of stereophonic sound. Several other features that helped put 3D back on the map that month were the John Wayne feature Hondo distributed by Warner Bros. Although it was merely a filmed stage production, the idea was that every audience member would feel they would have the best seat in the house through color photography and 3D. A string of successful films filmed in 3D followed the second wave, but many were widely or exclusively shown flat. The

film became notorious for being released without an MPAA seal of approval, after several suggestive lyrics were included, as well as one of Ms. Originally released flat through Universal-International. It was directed by the great stylist Douglas Sirk , and his striking visual sense made the film a huge success when it was "re-premiered" in 3D in at the Second 3D Expo in Hollywood. Although arguably the most famous 3D film, it was typically seen in 3D only in large urban theaters and shown flat in the many smaller neighborhood theaters. Although available in 3D in , there are no known playdates in 3D,[citation needed] since Warner Bros. The film is now available on 3D Blu-ray , marking the first time it was released on home video in its 3D presentation. Most theaters showed it flat. Cyr, and Vincent Price. Even though Polaroid had created a well-designed "Tell-Tale Filter Kit" for the purpose of recognizing and adjusting out of sync and phase 3D,[citation needed] exhibitors still felt uncomfortable with the system and turned their focus instead to processes such as CinemaScope. The last 3D feature to be released in that format during the "Golden era" was *Revenge of the Creature* , on February 23, Ironically, the film had a wide release in 3D and was well received at the box office. The film was shot in 2-D, but to enhance the bizarre qualities of the dream-world that is induced when the main character puts on a cursed tribal mask, these scenes went to anaglyph 3D.

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Features with 2D geometry can be converted to 3D features by adding z-values to the geometry using three different geoprocessing tools of 3D Analyst extension, depending on the conversion goal and the data that is available.

Edit text Transform proportionally by default Photoshop now transforms most layer types such as pixel layers, type layers, bitmaps, Placed Smart Objects proportionally by default. Shapes and paths, that is vectors, still transform non-proportionally by default. When transforming a layer, you no longer need to hold down the Shift key while dragging a corner handle to resize a selected layer to constrain its proportions. Anytime you drag a corner handle during transform and move it, the layer resizes proportionally. Holding down the Shift key now resizes non-proportionally when you drag a corner handle during transform. To resize a layer proportionally during transform, do the following: Select the layer s you want to resize in the Layers panel. Drag a corner handle on the bounding box to resize the layer. How do I turn off the new proportional scaling by default behavior while transforming layers? To revert to the legacy transform behavior, do the following: Type the text below in the text file: Lock Workspace option in Photoshop For more helpful information about the workspace options, see Workspace basics. Live blend mode preview You can now scroll over different blend mode options to see how they look on your image. Photoshop displays a live preview of blend modes on the canvas when you scroll over different blend mode options in the Layers panel and the Layer Style dialog. Scrolling over blend mode options in the Layers panel. For related helpful information, see the following links: Blending modes Symmetry mode Paint your brush strokes in a perfectly symmetrical pattern. As you paint, the strokes are reflected live across the line of symmetry, allowing you to easily create intricate symmetrical patterns. Pattern created with Mandala symmetry. Artwork designed by Mike Shaw. For detailed information, see Paint symmetrical patterns. Color Wheel to choose colors Use the Color Wheel to visualize the color spectrum and easily choose colors based on harmonies such as complementary colors and analogous colors. From the Color panel fly-out menu, choose Color Wheel. Access it at any time to find out about new features, connect to learning content, and jump right to your open documents. Click the new Home icon the Options bar to access the Home screen at any point. Photoshop Home screen For more information, see Workspace basics. Improved in-app learning After completing an in-app tutorial Learn panel , you can now use your own images to get the looks you want in less time. Learn with your own images Top customer-requested features Distribute spacing like Adobe Illustrator You can now distribute the spacing between the objects. Photoshop can already distribute objects by evenly spacing their center points. If your objects are different sizes, you now get an even spacing between them. For related helpful information, see Align and distribute layers. Left Distribute Spacing options in Photoshop. Right Spacing distributed horizontally between objects. Math in number fields You can also perform simple math in any input box that accepts numeric values. This is very useful when trying to quickly get to a multiple of a value, or divide something up. For more information, see Use simple math in number fields. Image showing simple math in the Canvas Size dialog. Ability to see long layer names For long layer names, Photoshop now retains the beginning and end of the layer name and puts ellipses Previously, the layer name used to get cut off at the end with ellipses Photoshop now puts ellipses Using Adobe Sensei, Match Font allows you to detect text included in the selected area of an image and match it to licensed fonts on your computer or on Adobe Fonts, suggesting similar fonts. For more information, see Match Fonts. Search Japanese fonts with Match Font. Flip document view Quickly flip your canvas horizontally. Customize keyboard shortcuts for Select and Mask You can now modify the shortcut keys for Select and Mask workspace. In the Taskspace command column, expand the Select and Mask set to edit the shortcuts as required. For related information, see Customize keyboard shortcuts. Preference to increase UI size Get more control when scaling the Photoshop UI, and adjust it independent of your other apps to get the font size just right. Thai, Burmese, Lao, Sinhalese, and Khmer. To use these languages properly on Windows, you must install the Language and Font packs for the particular language you want to use. To create a document using one of these new languages, do the following: Thai, Burmese, Lao, Sinhalese, or Khmer. Based on the language you select, set an appropriate font. Copy and paste

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the text composed in the language that you choose. If you have a language-specific keyboard set up, simply type the text. For more information, see [Composers for Asian scripts](#).

Chapter 3 : Sweet Home 3D : Features

Using 3D Features Lesson overview In this lesson, you'll learn how to do the following:

- Create a 3D environment in After Effects.
- Look at a 3D scene from.

Page Fusion The previous chapter covered getting started with VirtualBox and installing operating systems in a virtual machine. For any serious and interactive use, the VirtualBox Guest Additions will make your life much easier by providing closer integration between host and guest and improving the interactive performance of guest systems. This chapter describes the Guest Additions in detail. They consist of device drivers and system applications that optimize the guest operating system for better performance and usability. This image file is located in the installation directory of VirtualBox. The Guest Additions offer the following features:

You will only have one mouse pointer and pressing the Host key is no longer required to "free" the mouse from being captured by the guest OS. To make this work, a special mouse driver is installed in the guest that communicates with the "real" mouse driver on your host and moves the guest mouse pointer accordingly.

Shared folders These provide an easy way to exchange files between the host and the guest. Much like ordinary Windows network shares, you can tell VirtualBox to treat a certain host directory as a shared folder, and VirtualBox will make it available to the guest operating system as a network share, irrespective of whether guest actually has a network.

Better video support While the virtual graphics card which VirtualBox emulates for any guest operating system provides all the basic features, the custom video drivers that are installed with the Guest Additions provide you with extra high and non-standard video modes as well as accelerated video performance. For various reasons, the time in the guest might run at a slightly different rate than the time on the host. The host could be receiving updates via NTP and its own time might not run linearly. A VM could also be paused, which stops the flow of time in the guest for a shorter or longer period of time. When the wall clock time between the guest and host only differs slightly, the time synchronization service attempts to gradually and smoothly adjust the guest time in small increments to either "catch up" or "lose" time. When the difference is too great e. The Guest Additions will re-synchronize the time regularly. Each version of VirtualBox, even minor releases, ship with their own version of the Guest Additions. While the interfaces through which the VirtualBox core communicates with the Guest Additions are kept stable so that Guest Additions already installed in a VM should continue to work when VirtualBox is upgraded on the host, for best results, it is recommended to keep the Guest Additions at the same version. Starting with VirtualBox 3. If the host is running a newer VirtualBox version than the Guest Additions, a notification with further instructions is displayed in the guest. The following sections describe the specifics of each variant in detail. The following versions of Windows guests are supported: Microsoft Windows NT 4. A Windows guest should then automatically start the Guest Additions installer, which installs the Guest Additions into your Windows guest. Other guest operating systems or if automatic start of software on CD is disabled need manual start of the installer. If you prefer to mount the additions manually, you can perform the following steps: Start the virtual machine in which you have installed Windows. On a Windows host, you can find this file in the VirtualBox installation directory usually under C: The installer will add several device drivers to the Windows driver database and then invoke the hardware detection wizard. Depending on your configuration, it might display warnings that the drivers are not digitally signed. You must confirm these in order to continue the installation and properly install the Additions. After installation, reboot your guest operating system to activate the Additions. Updating the Windows Guest Additions Windows Guest Additions can be updated by running the installation program again, as previously described. This will then replace the previous Additions drivers with updated versions. Alternatively, you may also open the Windows Device Manager and select "Update driver Unattended Installation As a prerequisite for avoid popups while performing an unattended installation of the VirtualBox Guest Additions, the code signing certificates used to sign the drivers needs to be installed in the right certificates stores in the guest system. Failing to do this will cause a typical windows installation to pop up a dialog asking whether its allowable to install each driver. Note On some Windows versions like Windows and Windows XP the user intervention popups mentioned above always will be displayed, even

after importing the Oracle certificates. Log in as Administrator on the guest. Mount the VirtualBox Guest Additions. When installing the same certificate more than once, an appropriate error will be displayed. Prior to VirtualBox 4. For Windows versions before Vista you need to download and install certutil. CER " and save the certificate file to a local path, finish the wizard Close certificate dialog for "Oracle Corporation" After exporting the two certificates above they can be imported into the certificate store using the certutil. For more options regarding unattended guest installations, consult the command line help by using the command: Manual file extraction If you would like to install the files and drivers manually, you can extract the files from the Windows Guest Additions setup by typing: Guest Additions for Linux Like the Windows Guest Additions, the VirtualBox Guest Additions for Linux are a set of device drivers and system applications which may be installed in the guest operating system. The following Linux distributions are officially supported: Many other distributions are known to work with the Guest Additions. The Guest Additions work in those distributions. The VirtualBox Linux Guest Additions installer tries to detect existing installation and replace them but depending on how the distribution integrates the Guest Additions, this may require some manual interaction. It is highly recommended to take a snapshot of the virtual machine before replacing pre-installed Guest Additions. They also come with an installation program guiding you through the setup process, although, due to the significant differences between Linux distributions, installation may be slightly more complex. Installation generally involves the following steps: Before installing the Guest Additions, you will have to prepare your guest system for building external kernel modules. If you suspect that something has gone wrong, check that your guest is set up correctly and try executing the command `rcvboxadd setup` as root. VirtualBox can use the X. Org variant of the system or XFree86 version 4. During the installation process, the X. Org display server will be set up to use the graphics and mouse drivers which come with the Guest Additions. You can also ask the guest system to switch to a particular resolution by sending a "video mode hint" using the `VBoxManage` tool. Multiple guest monitors are supported in guests using the X. Org server version 1. The layout of the guest screens can be adjusted as needed using the tools which come with the guest operating system. If you want to understand more about the details of how the X. This will replace the drivers with updated versions. You should reboot after updating the Guest Additions. Uninstalling the Linux Guest Additions If you have a version of the Guest Additions installed on your virtual machine and wish to remove it without installing new ones, you can do so by inserting the Guest Additions CD image into the virtual CD-ROM drive as described above and running the installer for the current Guest Additions with the "uninstall" parameter from the path that the CD image is mounted on in the guest: Starting with version 3. Guest Additions for Solaris Like the Windows Guest Additions, the VirtualBox Guest Additions for Solaris take the form of a set of device drivers and system applications which may be installed in the guest operating system. The following Solaris distributions are officially supported: Solaris 11 including Solaris 11 Express; Solaris 10 u5 and higher ; Other distributions may work if they are based on comparable software releases. They also come with an installation program guiding you through the setup process. Installation involves the following steps: After the installation is complete, re-login to X server on your guest to activate the X11 Guest Additions. Open a root terminal session and execute: Updating the Solaris Guest Additions The Guest Additions should be updated by first uninstalling the existing Guest Additions and then installing the new ones. Attempting to install new Guest Additions without removing the existing ones is not possible. As we do not provide an automatic installer at this time, please refer to the readme. Shared folders With the "shared folders" feature of VirtualBox, you can access files of your host system from within the guest system. This is similar how you would use network shares in Windows networks -- except that shared folders do not need require networking, only the Guest Additions. Shared Folders are supported with Windows or newer , Linux and Solaris guests. Shared folders must physically reside on the host and are then shared with the guest, which uses a special file system driver in the Guest Addition to talk to the host. For Windows guests, shared folders are implemented as a pseudo-network redirector; for Linux and Solaris guests, the Guest Additions provide a virtual file system. To share a host folder with a virtual machine in VirtualBox, you must specify the path of that folder and choose for it a "share name" that the guest can use to access it. Hence, first create the shared folder on the host; then, within the guest, connect to it. There are several ways in which shared folders can be

set up for a particular virtual machine: In the window of a running VM, you can select "Shared folders" from the "Devices" menu, or click on the folder icon on the status bar in the bottom right corner. From the command line, you can create shared folders using VBoxManage, as follows: VM shares which are only available to the VM for which they have been defined; transient VM shares, which can be added and removed at runtime and do not persist after a VM has stopped; for these, add the --transient option to the above command line. To restrict the guest to have read-only access, create a read-only shared folder. This can either be achieved using the GUI or by appending the parameter --readonly when creating the shared folder with VBoxManage. Starting with version 4. The host operating system must support symlinks i. Currently only Linux and Solaris Guest Additions support symlinks. For security reasons the guest OS is not allowed to create symlinks by default. If you trust the guest OS to not abuse the functionality, you can enable creation of symlinks for "sharename" with: Manual mounting You can mount the shared folder from inside a VM the same way as you would mount an ordinary network share:

Chapter 4 : Converting 2D features to 3D featuresâ€™Help | ArcGIS Desktop

Converting 2D features to 3D features. Available with 3D Analyst license. It is often useful to have features with 3D geometry. Although you can display 2D features by draping them over a surface, 3D features are displayed more rapidly, and you can share them with others without having to send along the surface data.

There are two ways to get a 3D asset that meets our Asset Requirements into your Home: For instance, using the Share to Home feature in Oculus Medium. My Imports Oculus Home has added a new section to your inventory: My Imports This is where you will find local 3D assets on your disk that you can place in your Home, including several example assets you can use. As soon as you place an object in your Home it will automatically create an inventory object so that visitors to your Home can see it. Import Directory Oculus Home will search the following directory for any. If this folder does not exist, it will be automatically created when you select the My Import section of your Inventory in Oculus Home and we will add a couple example assets. Select Share, then Share to Home. Set the Title for your sculpt. This will be the name of the item in your Home. Choose the Detail level: Low for small things or objects you plan to copy many times in your Home. Most objects will look great at Low. When in doubt, choose Low to keep your home running fast. You can always re-export as High later. High for special objects you want to showcase in your Home. Click the green check mark when you are ready. Once your model is done exporting, make sure that you save your sculpture in Medium. Close Medium and return to your Oculus Home. Use your new creation in Home just like you would use any of the other items in Home. Medium sculpts are in real world units by default. However, if you scale your model up or down, you will have to take care to make sure this model is the size you expect after Sharing to Home. You can adjust the size and orientation of your shared sculpt by adjusting the Export Transform in the Medium Scene Graph. The GLB must have 0 validation errors. File Size Assets must be under 15MB. Texture height and width must be 2, pixels or smaller. Oculus Home currently supports only one set of texture coordinates per mesh. Animations The first animation will begin looping when the object is loaded in Oculus Home. Simple transform animations are supported, including Translation, Rotation, and Scale. Linear, Step, and Cubicspline interpolation strategies are supported. Skinned animations are supported. Morph Target animations are currently unsupported. We support normal, occlusion, and emissive textures. We support both textured and vertex color models. Model Positioning We respect the glTF 2. We will automatically create a bounding box for your object. Asset Meta Data If provided, the following will be read from the extras field in the asset section of the glTF: Adding Support for Share to Oculus Home If you are working on a content creation tool and would like to support Share to Oculus Home, all you need to do is save a GLB that meets our Asset Requirements to the Oculus Import Directory Oculus Home will automatically detect the new file and show it to you in My Imports Consider including Asset Meta Data to indicate the title and license of the asset Tips for Home Decoration Smaller file sizes will keep your home rendering and loading fast. Use lower polygon assets for background pieces. Use modular pieces to create a larger complex space. Tips for GLB Creation <https://github.com/KhronosGroup/glTF-Validator>: Although our asset requirements are slightly different most of the tools, tips and advice apply to using GLB files in Oculus Home. Use lightweight, realtime modeling techniques. Use small, compressed JPEG files for your textures wherever possible. Avoid using uncompressed PNG files. Consider using vertex color only with no textures when appropriate, this will free up texture memory for other assets Strip out unused data whenever possible. Test your GLB in Home. If all went well you should find your object in your inventory and can use it in your Home. You can look at the details of the inventory to verify your metadata was read correctly. If our asset requirements are not met, the object will appear invalid. You can look at the details of the inventory item to see why it was flagged as invalid. While working with glTF file navigate to materials section and edit the name of the material similar to following: While working with 3D assets in blender, name material similar to following: While working with 3D assets in Maya, name material similar to following: Multiple meshes can share the same customizable surface material. Use this to setup split screen: Aspect Ratio 16x9 is the default aspect ratio. The same monitor with 4X3 aspect ratio will look like this: Was this answer helpful?

Chapter 5 : machine learning - Can we learn 3d features using Autoencoder? - Cross Validated

Enjoy 3D (three-dimensional) content using 3D Glasses and 3D Sync Transmitter. With this feature, you can enjoy a powerful 3D experience of entertainment, such as 3D video games and 3D Blu-ray Discs.

The fact is that 3D might not be as enjoyable to you as watching good old 2D high-def. Failure or no, however, 3D-compatible TVs are here to stay. Today manufacturers use it just like any other feature such as Hz or Smart TV: So should you care about 3D when buying a new TV? Our quick and dirty answer is "no. For lots more detail and in-depth recommendations , read on. What is 3D TV? It allows those TVs to display specialized, made-in-3D video with the right accessories -- namely 3D glasses and a 3D source device. With that in mind, here are a few basic points about 3D TV. The first thing to know about the 3D feature: Notice the doubling of onscreen objects. When viewed without the aid of 3D glasses, the two full-size images appear intermixed with one another, fuzzy and basically unwatchable. When viewers don the glasses, they perceive these two images as a single 3D image, a process known as "fusing. For a primer on that, check out "How 3D content works: For now, every viewer of a 3D TV needs to wear a pair of special glasses to see the 3D effect. New 3D TVs have 3D quality comparable to a theater 3D TVs released since can display high-resolution, color-correct 3D images, which blows away the old "anaglyph" method using red-and-blue filtered glasses. The biggest differences between theatrical 3D and 3D TV in the home are the size of the screen and the distance you sit from it. Not everyone can see 3D, and sometimes 3D causes discomfort Between 5 percent and 10 percent of Americans suffer from "stereo blindness. Warnings like this one from LG are a little alarmist, but comfort during 3D viewing is a legitimate concern. Active 3D was first widely introduced in by most TV makers, while passive 3D widely debuted in The main difference is in the glasses: Sony sells mostly passive, while Panasonic offers passive LCDs and active plasmas. LG is the main developer of the " pattern retarder " technology used by all current passive sets. Most passive 3D TVs come with at least four pairs of passive glasses today, and some even more. In a new development for , most active 3D TVs include glasses by default, too -- usually two but sometimes four pair as well. Very recent-vintage active 3D TVs that comply with the universal full HD 3D standard work with any active glasses that also comply, including those cheaper Samsungs. Older active 3D TVs typically require the same brand of glasses Panasonic TVs need Panasonic 3D glasses, for example or more expensive universal glasses. You can use pretty much any circular polarized passive glasses -- including off-brand versions or even ones "borrowed" from a theater, with any passive 3D TV. Some passive glasses, like these from Sony, can be pretty sleek. Passive glasses come in many form factors, including designer and clip-on versions for people who wear regular glasses. Their batteries also need to be periodically replaced or recharged, typically via a USB port below. Passive generally causes less crosstalk -- a major 3D-specific artifact -- than active. Active glasses shutter closed alternately, reducing the amount of light reaching your eyes. The image on screen is only intended for the left eye. Passive 3D TV, up close, as seen through one lens. Note that even though your eyes together are getting all the pixels from the TV, you can still see these lines depending on how close you sit, and how big the TV is. They also keep their 3D effect better when seen from extreme angles to either side or above and below the image -- although from most normal viewing angles, passive 3D TVs have no issues maintaining the 3D illusion. We prefer the 3D picture quality of the best active 3D TVs over passive for critical viewing Our main hangup with passive 3D TV is the presence of the artifacts mentioned above, which we find especially distracting at the closer seating distances and with the large screen sizes favored by home-theater enthusiasts. Check out "Active 3D vs. Their higher resolution should eliminate most of those jagged edges and line structure. What about 3D content? You need made-in-3D source material to take full advantage of a 3D TV. The ratios are comparable, and so far in 3D Blu-ray releases are on the same pace as the last two years. There are also quite a few blockbusters; nearly every big-budget 3D theatrical release also makes it to 3D Blu-ray. The 3D Blu-ray format, and made-in-3D movies, definitely represent the state of the 3D art, with full high-def resolution and the benefit of the latest filming techniques to make the 3D effect comfortable and enjoyable. Actual 3D TV channels are rarer still, and have compromised picture quality Currently there are only two nationwide TV channels that offer 3D

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content: ESPN 3D and 3net. Unlike Blu-ray, 3D broadcasts on TV currently use a half-resolution 3D format known as side-by-side, resulting in a significantly softer, non-high-def look. We know of no plans to add more 3D channels or introduce a full-HD resolution 3D broadcast. [Click here](#) for more on the differences between Blu-ray and broadcast 3D formats. Even the menu is in 3D, hence the blurry look here. The Vudu streaming service also has a smattering of 3D movies available. As of now, the selection, aside from Nintendo 3DS games, includes cross-platform titles like Call of Duty: The Show, and Uncharted 3. The Nintendo Wii does not offer 3D compatibility. The Wii U does, but no compatible 3D games are available yet. Not strongly, in our opinion. Here are few things to keep in mind. In our experience, the best-performing 2D TVs happen to have the 3D feature as well. Watch 3D without the glasses 1: Check 3D out yourself before you buy.

Chapter 6 : Feature To 3D By Attribute Help | ArcGIS Desktop

Article Description This excerpt from Adobe After Effects CS5 Classroom in a Book shows you how to add lights, effects, reflections, and other elements to a composition. In doing so, you'll learn how to use additional 3D features available in Adobe After Effects.

In computer vision, parameterized models are most of- In this paper we define a spatial symbolic model that can ten the model of choice. Ideal parameters are stored in the be used to describe classes of 3-D objects anatomical and model database. The range information is processed in a man-made and a method for finding correspondences be- prescribed manner to produce similar parameters, then the tween the features of the symbolic models and point sets of data and model parameters are matched. This an oversim- 3-D mesh data. An abstract symbolic model is used to de- plification of the process, but is sufficient to illustrate one of scribe spatial object classes in terms of parts, boundaries, the main problems with this type of representation: A working model is a mechanism ent model must be generated and stored for each individual to link the symbolic model to geometric information found object desired to be recognized. In our methodology, only in a sensed instance of the class, represented by a 3D mesh one model is needed for each class of object. Matching is performed in a three-step procedure Our goal is twofold: Introduction down approach to assist in matching a three-dimensional mesh representation of the object to the symbolic model. The goal of this paper is to develop a new method to This information can be useful for many applications, some match a symbolic 3D object model that represents a generic of which are: Even if the identity of the object is already known, 1. More accurate and aesthetically pleasing reconstruc- identifying the occurrence of the features that are known to tion of an object. Reconstruction from incomplete data. Identification of features in medical images. Recognition of objects in a limited environment. Location and identification of such features can be used in a variety of applications, such Our new methodology uses symbolic models to repre- as object reconstruction, telerobotic operations, and medi- sent 3-dimensional object classes. Symbolic representation cal informatics. In [4], Hernandez presents Use of symbolic models of 3-D objects is often found in an entire system based on qualitative spatial knowledge to the field of artificial intelligence. The models are generally describe 2D spatial objects and relationships. He proposes used in reasoning, and sometimes lack a real connection to a way to extend his system to describe 3D objects based on a physically existing object [4]. Our model has two levels; volumetric primitives. He also provides a comprehensive a purely symbolic level that is useful for reasoning about survey of other work in the area of qualitative spatial repre- an object and an intermediate level which contains physi- sentation. The approaches surveyed in this work have one cal constraints that enable us to tie real object data to the thing in common; they use the qualitative representation for high-level model. In this way, we are able to use reason- reasoning about spatial objects, but do not try to tie the qual- ing about the object to identify the real features in the mesh itative model to any particular instance of an object. Other researchers have used qualitative spatial information for ob- matching methodology has three stages: The candidate sets of geons [1]. W_f is a connected point set. W_f satisfies the requirements for type t . Motivated by medical applications, we developed an ab- Given a working model Q with feature set F , the first stract symbolic model to describe any three-dimensional stage of matching is to identify for each feature $f \in F$ a object. The abstract model consists of a spatial object ontol- set of working sets S_f for that feature. Thus the output of ogy and three networks: This model The second stage is top-down, and its purpose is to fur- is useful for reasoning about the object and can be the start- ther reduce the number of candidate sets of mesh points for ing point for domain-specific models to be used in match- each feature by ensuring the working sets still under con- ing. The abstract model has been adapted to the domain of sideration have the proper general shape and the parame- anatomy and has already demonstrated its usefulness in that ters of that shape fall within the range of the shape param- domain. The Digital Anatomist Structural Abstraction [8], eters of that feature. These remaining working sets, in con- derived from this model, is an integral part of the Founda- junction with the fitted shape-type of the feature, are called tional Model of Anatomy [9]. Each C_f must satisfy the following conditions: The label is just 1. Working-set-types and shape-type 2. Each parameter $p \in G \cup S$ falls within the

given are properties used by the algorithm that detects the feature range of the corresponding parameter m in feature f . There may be any number of working sets associated with a feature and for each there will be a working-set-type. The working-set-type limits the sets of mesh points. Note that a constructed feature can be formed from more than one working set. Shape-type limits the shape of the detected feature and has shape parameters, a that may be more robust than those generated from just one fit-function, and an error function associated with it. For example, the fillets where the handle on parms is the set of shape parameter values for that feature. We use a constructed feature that consists of a line segment fit to both fillets, then base the constraints on the matching properties of that line segment. Given a working model Q with feature set F , the second stage of matching is to construct for each feature $f \in F$ a mesh data set representing a sensed instance of that class, set of constructed features T_f for that feature. Our down, and its purpose is to find a consistent labeling from the working model features to the constructed features. Let Relationships The relationships we instantiated for our $f \in F$ be a working model feature and T_f be its set experiments are parallel, perpendicular, reflective symmetrical, centroid distance, and concentric. Two features have reflective symmetry; A consistent labeling $h: T \rightarrow F$ is a function that maps model features to constructed features on the distance between the centroids of two features. The and must satisfy the following: The planes of the circles must meet the parallel constraint, 1. If a relationship between features is in R , then the must be perpendicular to the planes of the both circles. Experiments and Results There are many methods in the literature for solving consistent labeling problems; our current implementation is a pipe fitting, cup backtracking tree search. We experimented with five instances of pipe fitting, five instances of cup, and three instances of airplane. Implementation For each instance of cup and pipe we used three different mesh resolutions. Details of all models and experimental To test our methodology, we implemented a prototype results can be found in [7]; the cup class is discussed here. We developed four working set types based on curvature of the of the four working set types: We implemented three functions and all three shape types. The shape parameters allow us to specify ranges for the fitted shapes based on the bounding box between the features. The coffee cup model has four features: See Figure 1 a for a sketch of the features. Rim, bottomEdge and bottom are times at each point p of a mesh. There are four relationships defined between the minimum curvature, CONVEX high magnitude maximum features of the cup: The rim and bottomEdge must be concentric. Curvature is calculated at each vertex. 2. The distance between the bottomEdge and the bottom texture and each is classified according to its type. Regions of must be less than one-fourth the smallest dimension of connected, same-type vertices are grown, and small isolated the bounding box of the object. The regions are then classified. 3. The handleCon must be perpendicular to the rim. The handleCon must be perpendicular to the bottomEdge. Shape Types We developed three allowable shape types The experiments consist of two components: Mesh resolutions of twenty we used in our experiments. We generated five instances of the coffee cup class. Each cup has different shape to describe planar regions. Figure 1 shows the processing stages for one of the minimizing an error function. The shape parameters in the coffee cups. Part b shows the working sets obtained from working model are used to both provide initial estimates for the bottom up stage of processing. Constructed features are the shape fitting to the working set, and to remove those shown in part c. Part d shows the features identified by working sets from consideration whose final shape fit does our system. Figures 1 e and f are examples of two other not meet the parameters. Distance calculations for coffee cups. Conclusions c Constructed features d Found features In this paper we have defined a 3D symbolic spatial model to represent generic object classes. We have presented a new methodology for detecting predefined features in object meshes, and a method for linking the symbolic model with a real instance of an object mesh. We have developed and implemented a prototype system using the e Found features - cup 3 f Found features - cup 5 model and methodology, and have shown

the abstract model and the theory to be feasible approaches to the problem of Figure 1. Qualitative Testing The qualitative part of our testing [2] R. The system was suc- [3] S. The airplane was our most complex object, but the [4] D. Qualitative Representation of Spatial Knowl- meshes obtained were of such poor quality that the work- edge, Springer-Verlag Berlin Heidelberg, Germany, Press, Silver Spring, MD, , pp PhD Thesis, University of Washington, good separation of working sets. The mesh was displayed and a human operator Anatomist Foundational Model: Our system was then used to label the features, and the Symposium, November Generic Object Recognition Us- mean distance from the constructed feature to the operator- ing Form and Function.

Chapter 7 : Using 3D Features | Linda Shapiro - blog.quintoapp.com

Brings you the experience of 3D (three-dimensional) pictures and graphics using 3D Glasses. This feature lets you experience powerful 3D entertainment, such as stereoscopic 3D games and 3D Blu-ray Discs. Turn the 3D Glasses on, then put them on to watch 3D content. Press 3D repeatedly to toggle.

It contains object, texture, transform, and material libraries that are stored locally for easy access. In addition, you can download 3D content from the Web and use it to assemble detailed 3D scenes. Viewing 3D Worlds View, zoom, pan, and move in your virtual worlds, including in stereoscopic vision. VRML Viewers Simulink 3D Animation includes viewers that let you navigate the virtual world by zooming, panning, moving sideways, and rotating about points of interest known as viewpoints. In the virtual world, you can establish viewpoints that emphasize areas of interest, guide visitors, or observe an object in motion from different positions. During a simulation, you can switch between these viewpoints. Visualization of a minidrone flight path. The screen shows a car suspension test on a racetrack that combines multiple 3D views top, including speed data and visualizations of the steering wheel and force triads, with 2D graphics for trend analysis bottom. You can open a virtual world on your computer then view it remotely in a web browser on a mobile device or a computer that does not have Simulink 3D Animation installed. The IP address in the browser tab refers to the host computer running the animation. Aerospace vehicle landing with trajectory trace shown in red. Simulink Interface to 3D Worlds You can control the position, rotation, and size of a virtual object in a scene to visualize its motion and deformation. A set of vector and matrix utilities for axis transformations enables associations of Simulink signals with properties of objects in your virtual world. You can adjust views relative to objects and display Simulink signals as text in the virtual world. You can also trace the 3D trajectory of an object in the associated virtual scene. For example, you can perform flight-path visualization for the launch of a spacecraft. Simulation of vehicle dynamics. The use of these devices, however, is not restricted to objects in virtual scenes. In this model, a space mouse is used to control a manipulator. The device provides to Simulink information about translation and rotation of its controller cap and status of its buttons. Detecting Collisions from 3D Worlds Simulink 3D Animation allows you to detect collisions of point clouds, ray fans, and primitive geometries with surrounding virtual reality objects. Green lines show sensor rays; blue lines show distance to collision with surrounding objects. Recording and Sharing Animations Simulink 3D Animation enables you to record scene data and share your work. Recording Scene Data Simulink 3D Animation enables you to control frame snapshots captures of a virtual scene, or record animations into video files. You can use video and image processing techniques on frame snapshot and animation data. These approaches enable the development of control algorithms using a visual feedback loop through the link with a virtual reality environment instead of physical experimental setups. Simulink 3D Animation Player showing recorded 3D animation of two cars performing lane-change maneuvers with different settings of their advanced stability program control units. Enabling Collaborative Environments Simulink 3D Animation lets you view and interact with simulated virtual worlds on one machine that is running Simulink or on networked computers that are connected locally or via the Internet. When you work in an individual nonnetworked environment, your modeled system and the 3D visualization run on the same host. Visualizing Real-Time Simulations Simulink 3D Animation contains functionality to visualize real-time simulations and connect with input hardware. Components of a Simulink Real-Time testing environment that includes Simulink 3D Animation for rapid prototyping top and hardware-in-the-loop simulation bottom. Based on your location, we recommend that you select: You can also select a web site from the following list: Other MathWorks country sites are not optimized for visits from your location.

Chapter 8 : CNET's guide to 3D TV: What you (still) need to know - CNET

3ds Max has powerful rendering and 3D modeling tools for creating professional-quality 3D animations, models, and virtual reality visualizations.

Chapter 9 : Learn how to use 3D in PowerPoint

Creating 3D feature data. Available with 3D Analyst license. There are several ways to create 3D feature data in ArcGIS. You can create a z-aware feature class and use the interactive 3D editing tools to create new features.