### CGweek2\_1-20240909

说话人1 00:01  
51 is this is the first time you see, is that what is that? The first time to introduce this course, give you another view at and that afternoon is the the flight to mechanics in china since we did that they have to choose also for this part of the problem. But the following is not from weeks to week three and two parliament. When you focus on the research project, the cost project. It appears to introduce some massive the basic different platforms. I watch the system and also the learning papers possible. Three different classes, possibly usual written. So already it's about so. Do you like you have someone hand on skills? The learning case should be in the class and also neural case, the coming about is very a very popular. So this is give you some examples.

Purpose is for this cost of the photo and outside of the last season, a is a larger economy, even the past side is in the larger last semester, is the city building campus. The class side is next one. More than one. The ms is a course, which is snack is cost. Concept is not 100.

So first, I briefly introduce myself. I'm a invincible from the cs department, cpu then. So this is the office. I I will say, among the usually you can have question is to discuss it. This is all the academic real problem. Also, you can find some research project that was publication information on this website. And also this is the email that you can compare. We are the email. That's the if you want to have some other research project, possibly. So my research interest is the image video representation, the processing analysis. Recently, we mainly focus on the d three d geometry, data processing. If you check the website, so you will find some publications focus on city junction given process. Also the time machine learning. So club data classes semi civilized and then so for this cost, if you want to conduct similar research, so you can also find yeah, in city you mean campuses, there is one courses that is starting the student and assistant so that the guide is not in time it is also extreme value to the for just another one research project.

To replace 11, I I joined the csd cpu 2017 as a system for that last year. For this class we have a 60. So all the kids are my whole stars and the future is that and so they will from week three and from week three, so that you will teach them learning based should be data processing lives there. The first tutorial will focus on the pencil. It's a pattern function. Part of the following part is like the three d reconstruction, three d representation, and also object action. I also knew it likes the nerve and also with a global viewer senses. So it all popular topics, I think so, but you are helpful to you, even you pursue a higher degree and you'll find a job.

So in tencent of other all parking parties, you are my this year, my student journey is 25th. So this is the higher the salary is very high for phd students. The team will be responsible for that. The cost projects. Also this is the passport. I'm not sure if cpu homework the library. Yeah, I think you can find this, but there's more equally also that a lot of appeals online you just try to search the american that you will find a country also someone online cost like the c ground.

So it hasn't cost recent recently, the recent progress. This is a breeding policy. This part of the final breeding is impossible, is composed of three parts, okay? The cost project will take 25 % ok the cost project is a research treatment. You can select in weeks three, I will release the cost project information, so show you the requirements and give you some suggestion. So that a typical topic, it can be the deepening us to be bigger geometry, passing newer revenues to be content generation.

In today's lecture, iii will also give you a shooting sometime demos about three d data channel, two d or three d data generation, ok three d generations action since the real resolution iok for who have one. It's a slightly different, a much different from the traditional computer.

Have you ever done the computer grounds? Here is the undergrad. I think popular graphics is a it's also, I maybe that could cost not impossible. It's an electric part during almost time undergraduate. The second part is a meeting, please. So we will have one meeting a face, and you take another begins percentage. The meantime, quiz will be given in the next time. I will, for the exact date, I it should be the 8th and 9th matching. So later I will make an announcement. It can tell you the exactly the last part of the final examination is the minister presentation is close to the middle increase and the final examination mean. So it's a possible since the questions of it's not difficult, the passion is not difficult, really.

All questions are based on the national. And if you understand the algorithm and the concept, I think you are. So it's not big problem. So I also list the schedule because they're planning public holidays. So, yeah, actually, it should be 1 week when that change. But due to the public program, so we have to make up and that change. So maybe here I had a list of this is a particular class having a list of the case in the ace that matches. But for the exactly that announcement, for this class, we will learn the direction introduction topic about it. And then what it is. Why is it part of give you some recent progress on aitcai generated content? It's very religion company runs and generally remains how to get a three d data. But this part is a related cost private. For this classroom, then they focus on the traditional market values. And you can, based on the schedule, you can find that.

So the first package object model for computer graphics is we want to synthesize two d image, given the two d or three d this description associated with the attribute, like give us the model. Like how do you synthesize the two privilege? The singles that we on the classical message to be replied that three models in qv image and how do we generate the picture? How do we generate them? The color information? So we will learn this part that the projection and taking. Also, I will introduce a paper for 3 point o'clock also. This is very hard ways to copy. To summarize, it's quite different from the difference for two images possible that he has certainly achieving to all the different stages in different stages involving the women.

This part is a the first five lectures is about focus on the traditional also the class reading pipeline. It's also known as the russell asian base. That's it. The projection. But for the possibly building the advanced that the tracing, I will reduce it. It's a different element method. Nutrition will be possible. It's a different problems. Projection based the whole pattern. They start from the images should read and you can chat with them the million %. And we will determine surface the color of the lightness. Also, the real kind of this problem is related to the video games, the video games. So it's a the video games and focus on the datas. So if you play the video game class, we will send the connect, right? So you expect the response immediately with the lowest event. If the delay, the significance user experience is very bad. Right? So it is a real kind of how to speed up. The running process regenerate the image. Also, the gpu are based on the edge of the evaluation. So the file is a new arrangement.

How do you do that? Well, to synthesize image. And also in the ier you may face the resumes. You may be the resins also. It's a different from the 3 minutes. He is a model, just even send an email to $67 later in pieces, but you are the last week is that possible education and cost part of it will be it can be focused on it.

So I think we do have a 3 or 4 hours of product project and the project of education. So then that will announcement. Details is that but the cost whether even after the presentation is still provided by the customer. So the summation deadline, it should be for 1 week before the final. The class is the presentation. Here, these suggestions, ask questions. Do you know that? Finally, we are ignores it's a little bit required here on the top of total. If you're the as app, it's possible. It's aas app for the cost value. Yeah. So I ask you about the past. It's very different analogy is the most important competition. I think the doing the paper, they are very, very busily asking which kind of chicken, maybe because for many years past project.

So I think they are too just part of your they have rules. How do you and we ask the ip office to provide user, which is given harder.

And actually, there is a similar three resources. We asked any other to send. They have genius. Otherwise possible. I I would like to ask one question, have you ever known that you made it possible? At least the end of the difference between is there 3 kinds of unique processing, a communication, our hopes on the in which relevant and education learning? And some 348 process. And the computer classes focus on in this generation. For example, there is three dimension for. And like and this is in the computer office that I have a user from the region. I only got it. And I I but i'm actually in this class, I think i'm very thin. I who died near history to be the court. The general in general, you are, I should say your answer is key, the difference in economics. You have to be different research, but due to the large part of the foundation model, when we are gonna figure out in the past previously, the three, the confirmation, the cbmcbi is such a case.

It's a one from the email to the cost of the cd when you first process ok now, that's started. If you have no question, if so into the next part, give you the overview. This is all of the national rights. First, I really want to give you a higher definition and the purpose and the objective of the markets. Also, why about this? Ok why are we talking about what we are doing on its acquisition? So there are building on that issues. Also a huge market, possibly hong kong have a there are three parts, three modules, the country about the modeling, the reasoning and vision. They have to be part because the following part of the pihtcpih is company is very topic. We will find that we are big I ps.

Also, the last part is all for but many of our traditions coming about this on the past, but the cost project you can comparison research on the itc so they both passed the recent progress and class in the rights. First, here you are a general definition, the value of the market. So this is a general definition as the main objective is to sense of image from to be australian institution, exactly the people to the image, given a two d model, a three d model associated with additional attribute information. And then I the lab can be showed a camera, a version of a set of animals. So we want to synthesize the image.

The remarks is that it's like a virtual panel. Right? So you can use official panel to take a global price in your and image. Now we're going to use computer. Your computer is inside and you have to model this thing like that, given the action of the mathematician come to how to design and help it since generally too much. This is purpose computer rights. Here we are since the famous same description we want to general. And speaking, as I mentioned, as I mentioned earlier to the computer vision and image analysis is different from. So for computer warming system, the input in the studio, tv institutions. And additional practice of action. This is what you have at the same time for confirmation. And when you make analysis, actually, the first time is it the first time that is given image, you want to analyze ok and to build the comment on the sense comment at the past, probably complicated in the three d construction.

So the past product, assuming we have given a set of single a set of units, we want to really have a three model. This is a part of it. Also like so, objective action, face evaluation, it is a contribution, is not to have you put it to me. The operator description structure for the image, especially the universe process. It's a universe process. Another views is an image process. Have you ever known this past? Few past? It also should be an exactly past for the other side of the eew series from on the background, maybe not marry me. That will be possible in information, I believe, for email process, the problem, as they suggest, the email problem that is given image, the output is still an image.

For example, the image is annoying, but given annoying image, it operates in the that you said is possible. It's a low argument, right? In my dream. It is a very, but it is attaching the document, right? So the manager can be observed, right? We want to find the constant out of the breaking. This is unique cost. Anybody invention after seeing it? So, but nowadays there's no idea about it. Previously is bad for this area. But most people feel how different passive population, but actually it's not because the city is very, very hot research area. But actually it's not city.

So nowadays due to the in the foundation model, a large model, large number of the market. So that is not clear for a model is 300 pounds. Iii will also show you some relax you can use aa large model to synthesize it, even if you think i'm not sure a paper or just use another one. It's a company that you should use a large number of markets to generate the video games. Yes, I have a traditional, the computer a is a video game engine. In part by us it's like you send us. So we have a new system that really, but for that means that what generally generated, but released by this time. So revolution is very interesting, I think that can the whole video games.

The next part of the white ground is, so like this is the highest problem. The picture is worth some more. So it's just to show you the fishing information. It's very important. And 90 percentage of information transmitted the human brain, the human brain, and through the vision, the visual information right on. So that's, for example, give an example. This paragraph and this paragraph is passive to the description of invasion, so that it looks like small and smaller as well as different change and a long paragraph to describe to.

So given this is a description of this task, can do that. The question. What's up here? It's practical. It's just to show you. So this a a a is a structure. This is something just to show you the visual information. The visual data carry most information, the most information do you have carry volume. Pass the official information is hard. Also, white grounds, actually. So this application is this list. So like the movies, condemnation, video games, c ds, nation on the top of the us and division offers. So you give you some examples.

So the first amendment movies on the company, which has some well known computer animations and movies gives produced by company. The distance other, this is very famous, well known movies. Actually, this is a good one. Is that really myself feeling about it on the education? But for this kind of to produce the produce the movie here after this is a very common model. How to get this model is a very fine case. Another, how do you manage it? How do you manage it? How do you get it? High quality image. The video a a is a sequence of frame, right? The random render the same thing back to us. How do you render the hypothetical higher solution? So it may take 7 hours to render a single unit, produce high quality, high resolution, big movies. Is it at the powerful gpe possible render happen? Another one? It's a video games. It's a matter of time.

So the earliest video games, the earliest video games are smaller than 60 years ago. The stage one is more than 60 years ago, and not the business, the black news for. That's right. So it's also kind of bigger the series. And then I will show you. So this is the bigger condition, is how to run them. And you can learn it. We use it again if we use it and where is the high quality? That is a high part of the image, but they have usually the video given image. Completely power. You remember, I can be so my phd students driving a video a as a game, but it's not.

So the yeah, society is right. Because of that is such a market, have to also another line itself. The cedi think, have you ever used on the cud software? The engineers got this course. Speaking from led or mechanical? But that one probably I think is that the one policy seven in chinese gong chengdu. So the city is also the additional so like this is a us state and usa 111 hundred fifty years ago, it is enjoying 5 years. Yeah. The cad has revolutionary. The drawing process. The cad has the resolution of the drawing process. A if the draw this one, so that's not easy, is with a very complicated structure. They likely remarkable architecture. And the machine is not. And if you take the driver is actually your I think that is it. But if you hear the software, it is designer architecture, designer building the machine is very particularly as you need.

The cd and the revolution passed the drawing process. Also, the simulation, nice flight simulator, often bias in the 70s. I saw a paper and use the graphics, in general, purchasing to rather than watching the simulated behaviors, device, or training on the investigation curves, the advantage you use is react.

First, you can save cost, you can save cost, also reduce the risks, reduce the risk. This is aa dominant part, visualization on the rubbish system. So we can use rubbish is that a contest for money on market emission data. If you visualize them. For example, if you do the excel right to give us, there are a lot of statement. If you only read the data, it is different on the same discussion. But if you are kind of visualization, types, table and visualize your test, right? If it will be better to understanding, for example, this is a kind of the visualize series structure.

So the visualization is also a very important in such a that's one. There is a concrete products and visualization of the country and social in the transaction visually are provisional. So he gave a data kind of visualization. Also gui unless because the windows, the man is the iphone, the producer jack the bottom base on also know come in the box. The beauty concept refugees is the artist is that if you can but nowadays if you can imagine, you can use the foundation model. Just give the tax include come, if you practice it, degenerate image, special effects a so this page suggests to the graphics application, freedom.

And so there are many applications. Very hard. So this part of it to show you the how do you like naturally contains 33 models? The first model is the model. The model is we have to build the two deal. It can be a two d graph, is a three d graphs. We have to build the, if it is streaming graphics, we have to do the streaming model. How do you do this? Remind you, I need a software as a mile or other software to do machine. A lot of manager. Yeah, grammar is a kind of the computer should be marked. It's also learning you don't feel I have seen. But actually if you want to be friend of the manners, how do you manage? Is the models how to do it? You can also, I wish we had this scanning classes to scanner the real one in the city market. You can use software, you should be online. Also you can, nowadays we can do the foundation of generals in a single image, a task popularity, so different manners.

So this is the first one. This part is also related to the geometry must let me feel it is more. If you want to add, it is not. It adds the components. We also come components that the scanning data as a suffer from the knot. How do they move tonight? This is the challenge possible also under the model, ok later, because it is a difficult geometry. The pdp if you have the second class, the dspi so you pass it as, but to give a signal, it was a speedy one.

But the people soon pass is just a resolution. That's all the this is under the modeling. But this part of the will not dgp the digital geometry possible will not appear in the final nation possible not appear. We can fix this part, would be related to the cost project. It would be the cost will not be passed in the environment, which yeah, so second one is relevant, as I mentioned earlier, is the actually so different kinds of real message that's a restoration based on increasing the reducing you, make it a new tandem, possibly recent europe. It gives you a little massive.

If you get off and get a photo realistic or not a photo realistic ok generally the cost of 2 types of a photo risk, it will be run the same side. You may be the same the he made attach about this panel.

So this is the following is the data computing details and also animation as how to generate use some physics of the mechanical happiness is following the motion.

This happened. This is under the model. But this part of for the three d representation, for the 2 year and three d representation, the next lecture is object model. Give you a model here. This part should be different than condition as it is about this part of the geometry as we have used. That. Is that what is it? And the three standing in the demanding she had and certification. And then how the actually this is a very not on. This is my question. So this is the nation of admission is I for this stature, we will be, in the cases, face the invasion, the motion action. We will be able to, in part, in final nature. But this is not our focus and this is also another house. There are lots of, I think, more money in the city. You have to generate this, especially how to fund it. And for the renderings to carry the further test and all of this. But there are different, multiple limited assets.

So this is the three, The three modules in the three modules continue markets and also in the following lectures, the following like a different map, maybe probably what you see in the whole paper. And how do you do the model? And to synthesize it? Also have performing transformation. We build a model on the space. How do you know a common argument? Is how to steal the model on this? Is an occasional or other transformations and also how to create how to communicate. So if the object part of you buy it, so we it is behind the building. Do not. How do they at which part is? Part of the environment? Also like the projections that you would project, which part is it should not be it has been passed the model, which is the fact is which is available, which is it's a different thing. You have come in order matching ok the first part of the you can do that is that the the difference in presentation.

So the part of the private match. Also, this is the most popular data structure. How is it? I use this speaker in this structure. You can do. Who is the speaker? You have observed. Basically, it's a triangle. This is a triangle match. You hold up vertices, and that can be which the axis and that is. And you from a trend so that we connect the versus found in China, you need to find myself ok so there's an advantage, for example, for the time of the match. It's sort of fishing living process. It possibly at the time because the competition which are the data project is a friendly competition. Email.

Also, the slide service ok Spencer is actually said, is a special function, define the 2 points as an economy define a function ok so the science service is actually tensor power, the study card.

So we use that the cost product choose one problem. We can stand the surface.

Also, the subdivision of the subdivision service avenue is that you how do that is one of the drug server? How do you do so? From the scale stress, you will progress become common. Right? Is that sometimes part of the time recipe? It's a limited, really? Yes. So that's this one. This is not quite similar. There is a Delta emission model. Here you come. It's a sharp issue is sufficient. So if we did not have it, the progress becomes the economy in the Shanghai. So the limit will. The limit is out of view, the party is supposed to say this is a subdivision service. Yeah, also the geometry image.

Ok you have to be made to that kind of three da but this is based on that. This is a phase model, but this is the enemy 2000 one paper. So this is being all of that. So we can do the part of the solutions to find an American function by Jack, the American function. And that is the the purpose. Thank you is possible.

Then we feel we know that this one could be map which then we deal. You gotta sample. You gotta sample. When you do it, you probably know, and include the three argument and the picture. The color image is rdb three channel, right? A three privacy, the three, pardon? The excellent in that. So put it in the x by afrg to switch over the real problem. This unit actually is three market. This is, it's actually not this part is the fundamental algorithm. How do you design the pattern? How match the function? It's an objective. Imagine function. If you use a software, you can touch a manner that you gotta catch, right? Attaches that you made, right?

But if you want to see the attachment, you have to do it in the map. If you suffer the mind of others, the landlord is map to be made attention extremely large. I you will have to be on the you will have is how about you? The patient will not reach your patient ok if you may not do the discussion after the matter protection, if you put a tax issue of discussions.

So it's also a kind of recommendation. So this is a different, the following actions. Do you feel more awesome? And the hardest people will be learning with them? Exactly. Basic function is basic function. Do you know? What is it basic function that is basic recommendation? What is it? Is basic function? What is it in this function? In Chinese, in Hangzhou, in this function? Isn't that the promise there? For example, it is the series of performing fxi believe, is it? It's difficult to define the analytical solution. If you don't know the you need is difficult, is not treatments. That's a function of having more meaning it still going to find out China any social issue. So this is but the market, this kind of conditions, given part in aspect, I can know the function is zero or not. You can substitute the climate to the function, right? You will function equal to zero. Now, equal to zero, that means the time will be on the surface. It's a larger than zero, smaller than zero. It will be enough often. It is finally to justify very quiet on the surface.

Now nobody is fine, but what is it is the function. The following is, and you are z equal to a bigger as that you can. In this part, also very recommendation for three d data also actually the recommendation for three d this is also why the three d in a possible use the living massive, much more challenging in Junior for to be data. Because the data structure, the case unified, is a 25, is a 20 a rule. But for three d data, you can either find a match or a match or other. Other. I can guess that is basically which one you do, which one is not is based on his office. Based on that a there is no unifying that also the data structure. Is that in the following action, the next how to process it, you are learning methods as a 3 point of data is a market for the two images is due to also the time consume it consumer. A period of gpum is due to the revenue is due to the invalid structure into the image.

So if you want to find a neighbor, give a patient you want from the you how to find the data? You just the chance that to be 1:00, past one, - 1, you can hate it 5,000 meters. You have five final 3 times reading a little bit more reputation, but give a seven part in 30 states. How do you find that news? You only do the final occasion as I do. How do you find which one is able to do it? The other part, if you have to pack it by the single, if you pack it, give you distance opinions on it. Opinions. So this is a for this kind of operations to find the neighbors from the local nation in the learning nation. This is why is this really need a possible right for China to be data due to the data such due to the data such, it's one of the part that in the following here, this example, we have a break. We have that.