It's important that you talk you explain to us what you are done. This is for. record purposes that we exchange ideas you came for your research meetings and we have some things to show and this is helpful. This document would really be helpful when you begin to, for two reasons or even more more than two. One reason is that if you have gone through these things by yourself and you have prepared this, I'm sure you would have better understanding about the topic you're working on now. You would have understood so some of the recent works, you know how the authors put together their ideas because if you read multiple papers, maybe different autos have different styles that you would learn something that is common among those papers, you know, that's one. And this will also help you. I mean doing this will help you identify some important gaps. and when you understand those gaps, it's easier for you to define or restructure your own project objectives or perhaps your project goal so that you don't repeat what they've done that clear There is no way you go through 3 to 5 papers that you won't see some gaps. You know if you look critically at the abstract and basically introduction, you will understand what they are done and why you know, and maybe you can have some ideas, even the time in the paper, they will talk about some of the limitations. Some people say very clearly, some will not. So, and then, of course, on understanding what people have done will again help you to better frame your objectives and your motivation, and also also it becomes easier for your contribution to be seen. You expected contribution if they say, okay, in what way do you want to contribute? You can simply tell. them this paper that paper and this paper looked at this problem from this this army, but they left this and so I'm looking at the problem from this. And I do believe if I look at the problem from the angle, I'm also contributing to what other people are have done that looked at the problem from the sand. I'm sorry. Sanity water.. You need water? No, no, no. So who goes first? You can just tell us briefly. And more importantly, some of the things that you have learned in this process. Okay. So I can start that? Yes, please. So my project is using actually AI for the diabetes, risk stratification, basically study using machineary models and depl models. So there are a lot of research research that see yourones to a lot of research that I have touched this area, but I had to stream because of I do want some buffalo to water documents. So for my reading and then my research, I discovered as. Yes, interpretability, whichper leng was used by some authors in their own research for machary models. But then the thing is that some of them research when they deploy their model, using a random first lights, to be having more extra boost. Because of the nature of the data set, it's lacks of general liability. Basically, what I mean is that sometimes you can justly patients that the data set comparis of.. Then also some use sharp and lime for these interibility. I'm still talking about missionary models. they use shar online for interpretability? But regardless, it was not like deployable wy. I don't know if you understand what I'm saying. what do you mean by that? I think it's better to explain. Like,. due to the fact that there's that blackplay is a black box. Okay. Okay.. So, yes, for technical readers, we will understand the non technicals, they will not really get it. I don't know if you understand, so I don't need an explanation as to why this did this. So, yes, sharper line was used important in terms of that generalisability. there are still some questions, because it's just about me. So my own approach, one of the approach that I decided to use to 200 is is, I had to get like a benchmark data set so you used to train my module, because I plan on using a few machine machine modules and depending models. So before I get there, let me talk about another paper and what I saw. So I saw. Oh, what you're talking about, is it your work or your paper? I'm talking about what I saw. Okay. The first thing you talked about. I saw in one of the papers.. I noticed it in papers. So talked about what I saw and then I branched in soon. It wasn't I branched in soon, my own data set, but I caught it off, because I didn't want to.m proud information. So another data says, I So now, one of the things you have talked about that you're looking to do in your own project, if I understand you then, is that data set is not balanced. Yes, it's not balanced. Right? Data imbalance.. Okay. Continue, please. And then Miche learning Models their scores, like in terms of accurly. They were not high, so for non technical, they will be like, why isn't this high? Because they will expect 90 thereabouts. So then, some researchers carried out is int deep learning models. Now, the deep learning models, yesterday, I attained high accuracy, I think, of 92.5%, I guess. But then they use a lot of hyper parameter tuning, and then it's only people that are d in machine learning, you know, have surface understanding that we know what all these are. It doesn't have a l explanability. It's it's not interpretable. It still draws around the same block box area, because what they use was, I can't remember the phone, but they used something like PDPs. Tell us what they used. They used PDPs, they used lime as well, but I think due to the fact that they were, for my understanding, what must have caused the black box to be very serious for the fact that they were messing those hyperyters off for the sake of getting the high anuracy. So they had to forsake one for another. That was what I understood from the whole. I think that was the last people that I read I put on the documents. Then my own, my own work, what I intend on doing is I intend on using Kma Indians as the foundation because that I think it just has,000 columns. So I'm going to use it like as a benchmark. I'm going to use it as a train. I'll start small, I'll start with one mission model and one det model. I'll train my train those models with that data set. Then I can now start the trading, depending on how much time I have. So when I get a benchmark score on the K Indians for the closing models, then I can use that same model to test on a bigger data set. I think the next deter set should be diab is one30 UCI hospitals. That one has like real life real life. patients data buts been pseudonymized for privacy. So it's been covered in terms of that. Then after that, when I train, like when I say I train the machinery models a depline model, I mean, I will perrate the full pipeline that's starting from future selection, processing and the deployments, because I intend on the define it so. Then also another limitation they observed in one of the the papers that I read was that some of them did not really pay attention to feature selection. terms of selection, gave didn't pay attention to that. So I'm going to Europe, trying to pay more attention to that by using future engineering techniques. and then you know some of the research I understood that.. I don't know why they did this, but I didn't include this in mind. This is just one of the ones I saw when I was reading. I saw that because of the stakeholders, what they wanted, they were pushing for high accuration. So. I'm sorry. So they had to, they had to like,. There was, I don't know how to explain it. There was uncfort correlation. Yeah. You know, when two features are highly correlated, you can remove one and use it to still projects. But just to get the high accuracy that stick holders wanted, this was still used, but I don't think it was deployed, because from what I saw, most of them were not not deployed, they still lack exponability. So I set out some key objectives, and then. Then. You have to be a bit fast through time, right? It's. No, I said a time 23 past 11. Okay. So I set out a few objects. I don't know if it's too much.. I said out a few objects. musicically just to compare performance and interpret theility of this machinery models that out pick and different learning modules. So I only mentioned two dataes so far. There are a few. There are a few that are still in I'm still checking them because I see that some might need to have demographics in demographics, but. I think to get those demographical ones is much more a lot of identical steps one has to Cyrus, kept it aside. And then the second objective is to integrate Xable AI technology.niques, and assess that is finished for technical insights. Then one of them is also to evaluates fairness and generalisability of course the tasks of vary demographics and sizes, so that's why I mentioned that area. I can find one that actually has enough demographics. But I think I should be able to to address data ind balanceance using small, depending on seems when I'm carrying out the process. finally, it's to attack the first limitation I observed, which is to propose and clinical actionable framework, in case one wants to deploy the future chemical settings. So that can be carried out using fire stream lights or important face library. One of these, basically. I'm with you? Is that it? Yeah, doctors are the objects. Yeah, I can to propose a clinical action frame for future deployment in healthcare settings. So I've listening to you at some point, I got to what you trying to see. You're interested in doing. You. I think you talked about data in balance. Okay.. And you mostly talk about, for example, one of your objective here, you, you're talking about performance and interpretability. Yes. So my question would be.. I see you have multiple data sets. You talked about multiple four data sets. It might be a bit too much. I don't know how big close the sets, how you feel considering. Four, sir. When is optional?. Okay, let's even say.. You need to. I see that I have gone through some related articles, but I think it's important for you to be more specific about the area in which you hope to contribute. Are you looking at a interfatability across data sets and if you say the data set is not bad balanced right? If that's your argument, that the data centre, you're talking about two things, you're looking at performance and interpretability. That's your first objective here. right? You want to improve performance of the machine learning model. You still want to be able to interpret such machine learning models output or the machine learning models or deplining output you're comparing both machine learning and deep learning, right? Now, if you talk about the data, I don't want you to take so many things together. It becomes difficult for you to be able to point out where your contribution is. If you're talking about imbalance data, it means maybe the data set has more one type of sample stand the other. So how do you intend to. If that's your area of contribution, are you now interested in proving this such that you say if you have highly imbalanced data set, this can influence the generalisability of the motor that's one and will this also affect interpretability? I don't know if you get my point. Would you? You know, does imbalance data set makes it more difficult or less difficult to be able to interpret the output of emotional learning or deplining modern. Do you get my point? Dozing balance data set, affect that's on one side. You are looking at two things. You talked about imbalance data sets, right? And you say, okay, you're using Pima Indian force. Then, secondly, you would use another dataabase, right? Why are you using these two database? So basically, I think the Pima Indian is like I said, it's just going to to be the baseline model that I used to train because I think it's the most widely used in terms of diabetes research. Everyone always purchches this. So I think it's because it's they can consider it a bit and generalisable. From when I observed it. although it doesn't have a lot of rules, it's just 1,000. thousand So I think that's also why it's good for. And I think just like six columns of terles. So that's why it's good for in my opinion. So when I get like a benchchmark with that, you ask about the other data I said, why I'm using it. So I'll first training a machine learning module. Okay. With the P. Yes, I learning model. Okay. Micheine learning models and one deepline. Why? Your choice. So, I'm not clear with your idea.. The reason is, no matter how they be, maybe just very little, we should be able to distinguish what you're doing from what orders are done. I said before that your MSC project time is relatively short so nobody wants you to do something magnificent. At least, be very clear with what you're doing. You know? You have to be very clear and it starts from now. Let's try to define what you're doing now. You can build on that path, you know? Yeah. You have data, you have two data sets. If you're talking about data imbalance, you know like I was trying to explain, there are techniques. There are techniques for balancing sample sizes. For example, if you have data sets, if the data set has two categories, you know, maybe patients with diabetes in your case, on patients without. Yeah. D statusos can be with or without diabetes, right? Maybe you discover that with diabetes has out of about 1,000 records, maybe about 800 cases with diabetes in your data set. Maybe only 200 represent cases without diabetes. Obviously, if you train, sort if you use such a det to train merion lining model, you should expect such model to have high performance performance when it comes across cases with diabetes. Why? Because you have much more samples, like 8 to Yeah, 80 to 20, right? That's four to one. For every four samples of diabetes, you have just one. So it means the motor will have the chance of seeing much more samples of patients with diabetes and because the motor will see more samples of patients with diabetes, the chance should be ideally high. for that model to predict someone that has diabetes. Do you get my point? Yeah. It's just like you're preparing, for example. the more examples, you have two modules, model one and modelule two. You have spent more time in preparing for Module one under no condition. You have gone through various examplesles of the exams, exact questions, past exam questions for Mod one. But for the other module module too, you have gone through all only a few examples of the past questions or just a few past questions. Chances are high that if you see it for exam one, the example for what you want, and at the same time, you sit for the example module. chances are high that you would pass your old pass perform better in Moto one. Why? Because you have seen various examples of the past questions or the past questions for module 1 and you have attempted solving those questions before going for your exam compared to module 2, that you only have fewer past questions. Thank you. Your confidence will be very high for Motor One. So now, what exactly are you looking at? Are you looking at telling your story from the angle that imbalance data set will influence the performance of your model, or your main story, is it this, then also, maybe you can add interpretability to this. When I say influence the performance of the modern, of course, the term you use initial it's the same thing, generalisability, you know. It's still the same. If performance is not stable, it means, it cannot generalise well. Okay. Do you get my point? Yes, yes. I don't want to confuse you for them. I'm trying to. I'm trying to make a clear distinction here. So are you now are you now saying you want to look at imbalance sample across two different data sets. For example, you want to use the female their data sets the way it is, which is imbalance to train and test the machine learning model. And you want to apply some techniques to the Pima Indian data set such that it will make the sample size for both categories balanced and such balanced sample or such balance datet will now be used to train and testing martial learning murder as against the imbalance datet that was also used to train and test. Oh now be me comparing my own to what has already been done. Do you get the point? Yeah. You're talking about imbalance. Yes. Now you want to use that imbalance data set to build a model and test the performance. And again, that same imbalance data set, you want to apply some processing to that. And the output of that processing will give you a balance data set. You are now using the balance data set again to train and test the performance of that same machinary model. It means you have two results at the end. You have the result for the same machine learning model when you use an imbalance intercent and you have the result for that same martial learning model, when you use a balanced data set that has been prepprocessed to be balanced, right? Okay. Do you get my point? Are you now trying to tell your story that, okay, imbalanced data set can help impact? I' what you're saying. Okay. So, are you that one? Are you doing that for your force data set? Are you doing that for your second date set? So what's your story? You get my point. Try and make it clear. Search that people will understand what you're doing and they will appreciate your work. Okay. So I don't know. Then, what that's one of the points I I'm trying to make, and maybe that's the fourth stage. And maybe in the second stage, you want to see how.member, remember that I'm trying to make it central. Remember so that everyone can see. Remember that your ML model. mial learning model. model. MLL remains constant. Sorry. Constant. Here. It doesn't change. This is your model. It's just the form of the data. Balance data, imbalance what data. Data. Hmm? Theot going. This guy gives you resort for what? Resort for what?ance. Balance data. No, Bal data. Resort for balance data. This is it. This also gives you result, which is this for what? Resort for imbalance data.. You get the point? This remains constant. Machine learning model remains constant. Are you telling a story like this? This is for the first balance data one imbalance data w one this will be resolved for balance data one This will be resolved for imbalance data one. Are you doing the same phone? Two, the second data set. To take time. Okay. No, I just want to get your story very clearly. And at the end of the day, maybe you want to conclude based on the results based on this and that when you use balance data set, for example, if that's what the result shows. When you use balance data set, hopefully the results is relatively better in terms of generalizationization, compared to when you use imbalance data set. That would be.. That would be wrong. Okay.. Do you get the point? I get, I. Okay. It doesn't ambul I can also do. Yes, I don't know. But the reason I'm doing this is so you understand that you need to sit down, think and make your project idea very clear. It is upon that that you can now proceed to the next level. You know, this will help you if you can clarify this this stage. It will help you in focussing your effort. You know, okay, this is what I'm doing. You know. Then, if that's what you're doing, then you begin to if this is what you're doing, you begin to look for methods that can help you balance data sets. Okay, yeah. Right?. So. Okay. So time has gone, but I think it's important that I have you. So I would let you to talk now. This is just one example. Okay. Or you can use a single data set and if you want to put explainability also, you can have the explainability for the result for balanceed data and also have XAI. XAI. for the known balance and also try to see what these outputs gives you. And see if you can have some explanations or provide some inside bas on this. But again, that depends on what you're looking at. I think, sir. What's? I was trying to explain before that. And I said, I'll use this as a this model. Okay. Don't worry, I'll go to the next. Sorry. No, no, no. I'm just checking behind. I know. That's fine. Okay. So like these female Indians, because I've seen that some people, they balance, some they will not balance. but they will still do some. Some use sharp line, some sharp 9, PDPs. Some might do everything, but not deploy it. Some might do everything and be depending on your so to have with black box. But I figured I myself, I just bust it to balanceancing. using depending on the way the data is scheed that I want to use, like the feature, the feature. If he's skilled he's too much rightly skilled, if he's centre, his mind distributed, that will let me know the type of Balancing metal I' smooth, I' I used on something, I I just attach weights should be less. Yeah, sorry, less sample, yes. So I think what I've seen mostly is they always talk about males being modern females. So imagine depending on how the female is, and attached weights to the female so it's have much of privacy compared to the videos, then basically it's like as if I'm taking femaleima Indians as a big dog. I'm going to apply necessary to that. The whole full frame ofation process of a train of modular process, for ML maybe the dipline MLP perceptors, I don't know, I'm not sure. So one of those, I'm still in the size, I don't want to define the people who I tried and it doesn't work out. So you won't be wondering why I change it I just give them an example. It's okay to experiment. Yeah, so I've seen some studies. They do a lot, a lot of motives, but I don't think there's am I have enough time to do that because I did that in any time I used six to and I't have time for that. I'm sending my laptop in my GPU as well because that's I'm afraid I declining mode. But I'm going to use it regardless I'll pass PA millions through the whole process of developing the modelule or to the deployment stage, use the shape, the sharper line, use everything on it. Then when I get the missionod depending model this second one, the second data says, it's a real world detacit, I think, yeah, so how now use those models to test on the two. I don't know how I have to explain it. The new data set that's the one I'm talking about mobility on seeing data. Okay. So I will now to performance, check your performance, interpability done by results, everything on. So when I do that data, I will now compare the differences in the resources of bias and I understand what you're saying. We have two different. We're talking from two different times. I didn't see from that angle before. It's not, please look at it this way. Thank you. At this point, it's not the pipeline. L emphasis on the pipeline, but more emphasis on clearly clarity on where you are contributing. Okay. This process or pipeline you expl explained, I think it's gone to many ML. Yeah, many. But what now makes, what makes this different? I mean, what you will be doing different from this is that clarity that I'm asking. You know, you've been able to clearly state that this aspect has not been looked at extensively. You know, for example, trying to have you can experiment. It does not matter what the result looks like.? You try to say, if what you're looking at is sample size, which is one of the things imbalance they time balance. You can look at this for both machine learning model, for deep learning model, will using balance data. produce different results for martial learning model as well as what dep learningment model.. Better than imbalance, will this or will it be the case that there is no difference, no significance difference, whether you balance the data or not, the result will not differ. for either m machine learning or dep learning or for both m learning or deep learning. I don't know. I'm trying to make something really clear. What's more very important here is what sets your idea different from those papers you have read? I think you You can all those papers you've been reading, I think I gave an illustration when we met.. If you remember the illustration, OK, this guy did auto one.paper one did XY. paper two did YZ right but nobody has looked at sorry paper one you know, X what Y this is paper one paper two did what YZ but no guy has looked at what. So you are now interested in what you now. We can see you. You're interested in looking at what? I see. So that clearly makes your work different. I don't know if that makes sense. Some guys have looked at it this way, this way, but did not enable to look at it this way. And you're now looking at it this way. It's difficult. Yeah. I really get. This is complex. No, no. I'm thinking, like, based on my own topic. Oh,. Do you get my point? Yes, yes, yes. Don't park so many things. Don't inside. Yes. Just sit down, think. It is how you're able to clearly define what you want to do, and how you're able to talk about it, tell people about what you want to do that. It's not Why is it makes sense to me let me. There is I think more of the talking is even more clearer than this. But some t that you the architecture, disl the architecture there., of those papers that you have read, you are the one that talked about data balance, right? And I picked that. Is there any of those papers that I've he carefully looked that the impact of whether the data is balanced or not on the performance of the machine learning model and as well deep learning model. Some people have argued that it's good to balance data set, right? If you do your risk research and you're sure that the experiment is properly conducted, and you find out that there is no significant difference in using balanceed data sets and imbalance data set in training mach anymore. It's also acceptable. Yes. Because some people have recommended balancing. Do you get my point? Some papers are even online, they tell you it's good to balance your data set and it makes sense so that theary model can generalise better, you know. This situation can hold in some cases, but maybe not in all cases. So you might be able to add to knowledge by proving that if that's the case for you, if the results you're getting suggests that there is no significant difference in using either balance or imbalance data to three. That's fine, that's valid. an experiments Yes. You can argue, you can clearly state that while most people or some authors, if you know the papers, have recommended balancing and they demonstrated in their experimental paper. However, you found something different in your experiment, which is true, Science is true, Resent is real, right? You have used the data set, you have clearly, detailed, how you how you carried out your own study. and you've gotten some results from that study. And if anybody tries that, they will find out that it easier, they would get that same result, which does not support the general idea that you should balance. So you can say there may be exception, like in your own case. It's not in general.. Yeah, rich, everything. Yeah. Do you get my point? Yeah. This next thing is easier. Because,, you know, we're just talking based on the front five papers. Okay, that you read. There are good papers, there are bad papers as well. Perhaps there are papers you would read and you can't make any sense. So they're just going like this. Some say they this and they got so so Some said they did that just like what you said and they did not get it. So I was thinking maybe there's some wrong. No, it was not have to be. I saw people that had like 60% accuracy in their conclusion. Okay. And they would still publish that published. Accuracy is not the benchment for research. Do you get the point? Yeah, I do. Science provided your presidio is well described, and you ensure that there are no errors in your implementation to the best of your knowledge.ledge. Whatever results you are getting, you can report that. This might be contribution to to knowledge in the sense that some people would necessarily go through the balancing process. Maybe there is no need in some cases. There is no need to create that extra preprocessing stage, which will take you some time and effort. Rather, you can bypass that extra stage and just feed your data directly into your mood. You are saving time and effort. So this can be your contribution. I don't know if that makes sense. Are you sure? Are you feeling? Okay. Can you say. I'm not getting anything. Okay, I think maybe when she start talking about her topic So maybe let's quickly move to the next movie.. So.. No, that's why. is like, I haven't done. Like this, right? Yeah. Okay. So what about you? I just go through my address. He is just someone right. So my topic is early prediction of diabetic complications using multivicing. Okay. It doesn't matter what your topic is, what makes what you're doing different, was that the thing that you can say okay okay, you know, this makes your work different from those other papers that you've seen. In what way? For mine, I think it's majorly the multimodal approach using modern one data set. Okay. So for is it using, please go ahead? So the previous approach is just used like a singular tabular data to predict diabetics. So from my topic, there are two words that is scary, early, and complications. Okay. The two words basically change the dynamic of basic predictions. So it's not just predicting if someone has diabetes or not. So when I'm looking at to predict it early and then complications, which is the scary part of the work usuallyual is the complication aspect, because the complication aspect divides it into probably five complications. So those different complications now have to come into play and for most of the papers I'vealed or have looked at majority of let's say probably 80% of them, just focus on one complication. See the eyes on the kidney. or the nerves. So this is a combination of five complications. So one of the major challenges I'm facing currently is getting a suitable data set data set that would be able to give me what I want automatically. What are I have now with there's some data I shared, those three data. So I just need to verify if, I'll be able to carry on the tax with those data precisely, then there's another electronic health record data I saw online that I'm currently still downloading. I've downloading since yesterday. I see. Yeah. So on that platform was the one I shared with you via email yesterday. Yes, yes. So I'm hoping to get more resources here to be able to support my work as well. But concerning the focus of the work, I think the major thing I'm basically doing uniquely is putting together the treating health data and clinical data. So that I was going to ask you. Please go on. To make the prediction. So not just predicting if there's a diversity patient or not. So yeah, and also predicting early. So there's another data set too, that claims to have time series, so hoping to be able to match concepts from those data sets together to make the prediction. Then hopefully in the future, if we go to, I hope we're not distracting disguise on our voice. There are here. Let me outside a bit. Okay.. So hopefully in the future, like probably the time frame pump, then I also include the bit of Xmability to explain how the depplayed mod reason to make those predictions. And also final diplment, probably using streamlight or most likely just the jungle. Most likely Dejanggle, because it using streamlight there are certain complications that occurs with implementation. So there are certain limitations that the platform has that the jungle basically offers the flexibility to be able to implement and use the development modules. So my question is I've listening to you, my question about you working on multimodar is this are you looking to are you looking for example use multiple this are a data set that contains different kinds of information to predict the status of an individual, whether or not that individual has diabetes or not you make me understand. Is that what you're looking to do? Yes. Okay. Like you're looking at not just the electronic health record. For example, maybe you're looking at some scans. I don't know if scans would be included MRI scans. For now C scans. So what what additional data are you looking at? Just the electronic health record. So how is that Okay, with the clinical data, what kind of clinical data when you say clinical data? For example, what kind of information do you have in there? Like I have one here. I don't know thecription. The names. You should check the sauce. It will be there in the sauce where you got those. data from. They should provide you with descriptions of the columns from the source of the data. If you go back and check carefully, you would find find out., what you have my family. are records.olic, blood pressure. Smoking. parameter Those those ones are the electronic. So what are the clinica?. That one also has each gender, and then. So how is that is this? This one has time, which is good. So this one has, I think, it will cost there are some medical. Okay. you okay? Is it the same? Yeah. Difference from different. Yeah, differences sources. So how do you link this up with a singular patient? That's the main challenge, because when you talk about, I don't know, what you mean by multimodor multimodor could be that you are looking at different kinds of information for each patient. You want to combine, for example, scants from images, you want to combine test results, like the systemolic blood pressure of the diastolic blood pressure and the BMI body mass index, you know, temperature, you know. And all those other indicators, you want to combine them with the image and tell what or how this might maps to the status of a particular individual with respect to diabetes. Hmm. When you talk about multimuda, I think that's what comes to mind. You're looking at a mult multiple data sources. You want to combine information from multiple data sources to predict. It has to be attached to the same patient. Yes, essentially, should be. Ouch. It's just like, for example, let me give you a typical example. Maybe I have been to the hospital and the doctor has my medical history and maybe from my medical history, the doctor wants to predict what most likely is wrong with me from my medical history. Right? Maybe because of my genotype, my blood group, previously recorded my sicknesses that I have got in the past, and maybe some information from the blood collected on my three previously. or even from saliva. Some analysis done on my saliva previously. So the doctor can look at my medical history and say, okay, since Samuel is having cold now or someone is having headache now, most likely Samuel is suffering from ex disease. from the previouss, right?. But it can also be that. I will be asked to do some scans now when I go. Maybe MRI scan, or CT scan, maybe X ray, and the doctor will now look at my X ray or the city scan or MRI scan, and combine this city scan information from the city scan with my medical history and tell if I have a particular disease or not. So it means the doctor is looking at more than one kind of information. Is that clear? Yeah. At the same time, he's looking at past and looking at present. Maybe present does not include what is in the history. Maybe in my history, medical history, there is no MRI scan, but now they are doing MRI scan and he's looking at the MRI scan, looking at my medical history and telling me that, okay, you have this disease or you don't have this disease. Is that clear? But it has to be for the same patient. So if you could get a database to do that, yes, a database online that has all of this information, we could look at which of the information information would be important for you to be able to build a multimodal system. it. Is that clear? Yeah. I think that's that's one way to explain the multiple mode I'm talking about. I actually get it totally. I do. What was explaining is just combining table data will before. It's supposed to But they are they are not the same individual. So how do you combine that? It can't be linked. It's just like you're taking the records of somebody completely with likements my record. Do you get my point? Yes, yes, yes, I do. So was the way for for both of you before I hear from your mind? Okay. Personally, the way forward is for me to actually, I was overwhelmed with the amount of papers I saw because most of them had to do that AI sharpened them You must not treat so many papers. Peak one, two, three, good papers, read them, have clerity. I'm just from this. Not specifically this angle. I mean, you should be very clear when you read, you try and articulate as much information from the paper and see the work what area the authors have not touched. And one of the ways you could actually notice is if you read multiple papers, basically, yes, because you will see this guy, they will tell you they did this. If you read another paper, he will tell you, they did another thing, right? They used another approach. So you can. By the time you go through a few papers like that, you can consolidate their ideas or perhaps the work, walks down in newspaper. Z by so doing, you would have even bro understanding in general about that topic. So there is a reason for asking you to do this literature review. And also very important, I'm not sure if I mentioned this. This literature review would form part of your thesis. Don't throw them away. And keep them, keep those references. You will use them later. They will form part of your final.. This is just skip then don't throw them away. I said you need to. Okay, good. You need to revere about 10 to 15, normally closely related and recent works in your MSC thesis, yeah. So we would come to a close since we are three today, so I decided to spend more time on each person. Thank you. So what about you, Amaya?.. I haven't done a lot ofable. Okay. My mental health health diagnis from NLP. L which processing. Yeah, I' part of this is to you a system of a relationship is checking about the person's taste and shaking with that person having sprays depression like that. Okay.. And I sent you a data set, but I'm not sure it's good enough for my one. I'm coming. That's. Hmm? It's been hard to do. Mm hmm. Why? Why do you want to do this? It's important. Is it that there are no methods to do this? or there are methods? This methods are not efficient. I haven't. You haven't. Are you sure? there is a lot of walks on mental health. Yeah, but like, that kind of a system I haven't seen, like, from the text, they just detecting whether that person having this right, so depression like this. Really? Yeah. I think you should find this. We can find some. They likeular opinains, but not the exact way. Okay? This is the first paper, right? This. Yeah. This is the second paper. Here. Fair paper. Okay. So, my question is now.