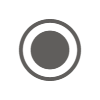
**AI Summer 24 Course-20240604\_175207-Meeting Recording**

June 4, 2024, 9:52PM

3h 1m 4s

 **Pat Lacey** 0:04  
Here.

 **Pat Lacey** started transcription

 **Pat Lacey** 0:09  
Is I am going to give you a little breakdown of the teams.  
Well, our AI class team and just make sure that everybody knows where it files are and things of that nature.  
So real quick, let me share my screen.  
Let's see if I can get the alright.  
Does everybody see the Microsoft Teams?  
Uh application here.  
Awesome.  
I see a thumbs up, so yeah, this should be the base view.  
The general page of the AI team you click in and you'll see this pretty much all the time.  
You'll see the course and it's always the same course class meeting.  
It just repeats every Tuesday and Thursday.  
Uh, as you guys all know you since you joined, you should be all set with that.  
Umm ohh before I leave here there will be one of there will be another installation here that will be my office hours which I will address further in on this class.  
Today, we'll pick out times that work out best with everybody here and in the future you'll see another meeting for office hours, so make sure to click on the right one when you're going to the class and then right one for office hours.  
Yes, Kevin is, I can see you have a hand raised.

 **Kevin Weiler** 1:50  
Yeah, I'm.  
I'm on as a guest, so I don't think I have access to any of this yet.

 **Pat Lacey** 1:54  
Ah yes.

 **Kevin Weiler** 1:55  
My my my idea wasn't created, so I'm I'm logged in as guest.

 **Pat Lacey** 1:57  
Yeah.

 **Kevin Weiler** 1:59  
I can't get to what you should.

 **Pat Lacey** 2:02  
Gotcha.  
Sorry about that.  
I will make sure to describe as much as I am showing in the things that I'm showing with my screen.  
Unfortunately, today we are getting you logged in and we'll get you set up for Thursday's class.  
But for right now, if you could just bear with me for today without seeing the screen sharing, I'll try my best to describe everything that we're doing and you will be able to access the class recordings of this class.  
So if you have any issues or questions, feel free to also to ask just kind of while we're going over these things.  
Umm, so yeah.  
We got the general tab here in our teams and we've been looking at posts.  
Now I'm going to switch over to the files tab within the general and that will be where I hold all the files that are related to this course.  
As you can see, we have the summer syllabus right here and we have the class slides.  
Today's class slides are already uploaded.  
I'll try to get them all uploaded before class.  
And but if I don't and you guys are looking for it, please let me know.  
It shouldn't be too much work for me to get those in.  
So you guys can kind of get those in as soon as you need?  
So yeah, ultimately there isn't a whole lot of other uh functionality within this.  
I'll obviously I'm available to chat, but there are better ways that communicating Sumi the class chat is probably the best for when we're in class.  
Personal chats sometimes don't always come through the best on my end, so I would say email and phone would be the best way to contact me outside of class and we will get into all the details in a few minutes on that.  
I just wanna make sure I'm hitting everything in the right order.  
And awesome.  
So is.  
Does anybody have any questions on that?  
I know we have a lot of repeat CanCode students, so that might be a a bit redundant in the explanations.  
Awesome.  
I'll take the silences and know UM and let's get right into.  
Actually, you let me change my sharing and then we'll get right into the slides.  
So.  
Awesome.  
So.  
OK.  
I'm trying to find the right thing for presenting.  
Does anybody know how to?  
This is a pretty simple question, but does anybody know how to present on the?

 **Daniel Durango** 5:25  
Probably by the slide show on your right, right next to Cher.

 **Pat Lacey** 5:28  
Ohh gotcha awesome.

 **Daniel Durango** 5:29  
Maybe like that down arrow?

 **Pat Lacey** 5:31  
Thank you so much.

 **Daniel Durango** 5:32  
Yeah.

 **Pat Lacey** 5:33  
Yep.  
Perfect.  
Thank you.  
So umm, yes.  
Welcome to AI machine learning foundations.  
I'm really excited about this course.  
This is, uh, the newest course here at Ken Code, and it is something that we are very excited about because it is on the forefront of technology.  
We are looking to expand our curriculum a lot into kind of these prongs of emerging technology.  
I believe in the future we will be having a cyber security course and possibly a quantum computing course.  
So there's a lot of new technology that we are introducing into our classes.  
And yeah, personally, as someone who has created all this curriculum, I could not be more excited about this.  
Just a quick background on CanCode, I'll keep it short because I know a lot of you guys are new repeat students here at CanCode.  
But overall, it is a nonprofit and it develops nontraditional talent.  
And so we are very excited to help with delivering training courses, coding programs and literacy workshops.  
And we are very focused on career placement.  
So we really want to make sure that we are training you guys to have the skills and the knowledge for where you can implement these in your jobs, hopefully get a really nice tech job.  
Hopefully one of these great paying AI jobs and you will be living in tech value or something with your feet up all day.  
So that is the dream and we are.  
I clicked on a link that my bad.  
See.  
Yes.  
OK, so this is my time to give me a little introduction about myself.  
My name is Pat Lacey again.  
I studied at the University of Miami.  
I majored in music engineering at the Frost School music and minored in computer engineering.  
So I learned a lot about, you know, recording technology in studio and in live sound.  
And then I also learned a lot about programming C and C++ primarily, which have a lot of hands in Python.  
Python is like a higher level coding language, so there is a lot that Python, you know gave me that I appreciated and wish I had known before because I probably would have never dealt with C without being forced to by a teacher.  
But yeah, I learned a lot through programming through college.  
Uh, and especially within audio.  
I have built multiple audio plugins of.  
That's a very big passion of mine is recording, mixing and also developing plugins.  
So that's a little bit about me after college, I.  
Soul.  
Uh saw the AI bubble, saw this big boom in progress and uh popularity, and I shifted my sights over to just kind of adapting this new technology, learning how I can hopefully connect music and AI, and which I've been doing on independent projects right now.  
And what I'm really excited to do in this course is kind of give you guys the the knowledge kind of walk you down the path of learning that I kind of stumbled through and give you guys kind of the uh, the understanding and the knowledge for you then to take your own passions and your own kind of hobbies and lanes of industries to then implement AI systems or AI tools or things of that nature.  
So yeah.  
That is a little bit about me, and now we're going to get into the fun part a little bit about you guys.  
All we're gonna do some introductions.  
I've never been a big fan of Ice Breakers, but yet I'm still having you guys do them all.  
Uh, so we'll try to keep them short.  
Uh, few questions we have here is why are you taking this course?  
This can be pretty much.  
What you are interested in doing with AI?  
It's pretty much obviously I know you guys all wanna learn AI and learn how to leverage, but maybe even just a little bit about your personality and what interest you have aside from AI that you might wanna incorporate AI into.  
I have you programmed before?  
If so, what languages like C, C++, Python have you ever used a I before?  
If so, what capacity?  
I kind of just wanna hear what you guys have to say for that.  
Whether you use chat, GPT or Gemini, or what model and probably like what would be what is the last thing you used the models for, like whether creating a recipe or writing out an email.  
I do the email thing all the time.  
Umm.  
And then lastly, what is your favorite hobby off so kind of a bit of an iteration of the first question, but anything interesting or fun to just share with the class?  
Kind of just a open field there.  
So real quick, I am going to go through and just call people out.  
I will not try to call people out through the rest of the course.  
I like to have make sure that everybody is comfortable with the, you know, uh, presenting or talking in the videos, but for now I just wanna make sure that I have the name, pronunciations and everything correct too.

 **Joseph Vinisky** 12:07  
Huh.

 **Pat Lacey** 12:10  
So, yeah, first, we're gonna start with Annie.  
And if you could just, yeah.

 **Annie Djatsa** 12:17  
Yeah, I might audible.

 **Pat Lacey** 12:21  
Yep, I can hear you.

 **Annie Djatsa** 12:23  
OK.  
Thank you.  
Hello everyone.  
I'm honey.  
We turning CanCode student uh, why am I taking this API calls?  
Because like everybody saying, AI is the big next thing.  
So I wanna make sure I am not left behind.  
And I program before a little bit of Python.  
I've done a little bit of Python, but as far as programming language, have you small uh scripting?  
I've I've I've.  
I've done more of scripting like a a batch script and then also after I've written some code using a terraform tools and no.  
So have I use AI before?  
Yes, I use AI every day like I use chat, GPT, perplexity copilot, and being AI.

 **Pat Lacey** 13:26  
Umm.

 **Annie Djatsa** 13:28  
And what is my favorite hobby?  
I like walking a lot, working with the kids, doing some hot stuff with the kids.  
Yeah, that's all about me.

 **Pat Lacey** 13:40  
Great.

 **Annie Djatsa** 13:43  
Thank you.

 **Pat Lacey** 13:43  
Awesome, great answers Andy.  
I I'm a big fan of perplexity.  
I've been getting into it recently.  
That is a a really cool model and also uh, I've been a a little injured from running, so I've been enjoying the long walks that I've been taking trying to keep up and stay outside as well so.  
Yes, we are going to keep this moving.  
Daniel, if you could just unmute and go through those questions.

 **Daniel Durango** 14:17  
Sure.  
Thanks Pat.

 **Pat Lacey** 14:19  
Yep.

 **Daniel Durango** 14:19  
Ohh yeah.  
Good afternoon everyone.  
I'm excited for this course.  
I hope you know we're gonna learn so much.  
So why am I taking this course?  
Yes, just like Annie, I don't want to be left behind.  
I think this is gonna take over every facet of our lives, whether we like it or not.  
I also want to transition to a tech job.  
I get tech Courier.  
I also you know, because I I work in healthcare and I I like it, but I'm on the phone all day.  
I work for a call center, so it's a lot of talking and I don't wanna talk anymore.  
I'd rather just work and use my hands and my my my head.  
Have I programmed before?  
I took Python one in this course.  
It was.  
It was good.  
I really enjoyed it with Jean Juste, great instructor, but I didn't.  
You know, I haven't code like for a job yet, but I'd like to have I use AI before.  
Yes, I actually got hired last year to be a content creator and I was excited because I thought I was gonna write and be very creative and be this writer. But he?  
He asked me.  
Yeah, just use chat.  
GPT the entire time.  
You know for every product description and you know for the keywords and all that.  
And I was.  
I was just shocked, but yeah, that's what I did.  
I would just asked Chad debt to write descriptions and what's the best SEO description that you could write or S, you know, SEM for marketing.  
And I I use chat GBT, meta, I, copilot and the Snapchat has one too which sometimes I I mess around with which is funny.  
My favorite hobby is cycling.  
I bike whenever I can.  
This spraying I did the five borough bike tour that was a 40 mile bike ride and all the five boroughs of of of the city in New York City.  
So it was.  
It was interesting it it, and it was raining.  
It was not easy, but I had a good time.

 **Pat Lacey** 16:06  
Umm.

 **Daniel Durango** 16:09  
Yeah.

 **Pat Lacey** 16:10  
Got you.

 **Daniel Durango** 16:10  
Thank you.

 **Pat Lacey** 16:11  
Great answers.  
Umm yeah, I actually am a insistent instructor for Python, one with gene this semester, so I'm gonna be helping out with that and a lot of the coding stuff that we get into here.  
Is kind of the next step.  
With it, we don't get too involved and obviously if same goes to any other Python one students, if there's any gaps in between Python one and where what we're covering always feel free to reach out to me.  
To kind of help you, uh, it shouldn't be too much.  
We've tried to design the course to cover anything before we really get into the coding of it.  
So awesome answers Daniel.  
We are going to keep it going with Farley.  
If you could just unmute and answer those questions.

 **Farley Toussaint** 17:14  
Did you say Farley?

 **Pat Lacey** 17:16  
Yes, sorry.  
Is that a mispronunciation?

 **Farley Toussaint** 17:19  
Yeah.  
No, that's my name.

 **Pat Lacey** 17:20  
OK, so awesome.

 **Farley Toussaint** 17:21  
That's my name.  
Yes, good evening.  
Good evening.  
Hi everyone, my name's Farley.  
I'm from Brooklyn, NY.  
This is my second camcorder course.  
Some some people are familiar faces, so I wanna say hi to the the guys I saw last class.  
Umm.  
I I'm.  
I'm just.  
I'm ready to do an eye cause AI really helped me on that last course.  
I'm not the best with Python, I'm just gonna straight up say I'm not the best with Python, but ohm.  
It really did help and I know that I worked.  
I wanna learn more of the configurations and the like, not just to help me but how it can be in a conjunction of like work processing as well cause when I go on LinkedIn they have an AI bot.  
Now I went on Google.  
Google, when you go on Google Now, they have an AI.  
Facebook has a AI now. Majority of things is.  
Not only is it AI, but it's it's also in conjunction with your day to day life.  
So now it's not just OK.  
We're gonna have an AI, but it's your AI is gonna.  
It's gonna get to a point.  
I don't know how far, but when you're purchasing a vehicle or you're gonna be able to install an AI into your car and stuff like that, and it's gonna help you drive as opposed to just having a GPS, it's gonna automatically like flow, right.

 **Pat Lacey** 19:04  
Yep.

 **Farley Toussaint** 19:04  
So you know when we talk about like the future, when we talk about that, I'm really looking not just at the future, but the lifestyle that we're trying to foresee or what the next thing is gonna umm like the the the possibilities is gonna be in in the next coming years.  
Cause we're talking about something that OK?  
Right now it's very, very moderate and small, but in the next 5-10 years it's gonna be pretty advanced into what we're really gonna be using it for.  
Cause right now we're just like ohh, it's this little thing that can do a project for us and stuff like that, but clearly it's something that is way more then just OK, we're gonna do a project.  
This is something that is like seeping into our day to day.  
You know what I mean?  
So I think that's what it is and my favorite hobby right now, I just.  
I personally I just like going out and and trying new things.  
Umm, I like trying new things, going new places.  
I'm I'm very random.  
I'm very random.  
I don't know what I'm gonna be doing tomorrow, and I like it like that.  
I know what I'm doing today and that's it.  
Tomorrow, though, don't ask me about that.  
Don't ask me about that.  
I don't know, and that's my hobby.  
Just keeping it random.  
Thank you.  
And that's the end of my Ted talk.

 **Pat Lacey** 20:40  
We love that.  
We love that.

 **Joseph Vinisky** 20:41  
The.

 **Pat Lacey** 20:41  
And yeah, no great answers there.  
Yeah, a lot of truth spoken there, like, especially with the implementations that are happening on a large scale, pretty much every company has a AI element, or at least is using the AI buzz term for better funding or something.  
But yeah, uh, also, a really exciting thing that is kind of a in conjunction is that this.  
This class is kind of getting us to a point where, uh, a lot of people are at trying to create these connections, create these implementations.  
So there's a lot of power of knowledge in this, especially being so early and so fast in development that we can use a lot of this knowledge here in this course to be at the forefront of a technology help push it forward and create things like AI and cars, create, figure out the different data that will be passed in and what should be on the outside of a lot of uh, this digital literacy is just kind of understanding what is inside of the so called black box of AI.  
And so we are going to be covering all that and hopefully you guys make some really cool implementations with it.

 **Joseph Vinisky** 22:22  
Yeah.

 **Pat Lacey** 22:22  
So great, we are going to.  
Jump right into here.  
I saw a comment AI robotics is gonna be insane.  
Yeah, I've seen a lot of really cool things and we actually at the end of the end of the course, we're gonna talk about a lot of implementations.  
Probably. Uh.  
It might even be outdated by the time we get to that, but AI open figure one is something that I saw with open AI a a GPT models installed within a like pretty much dynamic Boston Dynamics robotic.  
And that is a pretty insane thing to think about when we get closer to the the actual implementations of things.  
All right, so moving on.  
UMI might pronounce this one wrong.  
Is it Jerry?  
JERI, please.

 **Jeri Pierre** 23:22  
Hi, Pat.  
Hi everybody.

 **Pat Lacey** 23:23  
I.

 **Jeri Pierre** 23:24  
You got it right.  
Thank you so much.

 **Pat Lacey** 23:26  
Awesome.

 **Jeri Pierre** 23:27  
Nice to to meet you.  
I apologize that my camera does not work.  
Umm yeah.

 **Pat Lacey** 23:32  
All good, no worries.

 **Jeri Pierre** 23:34  
But as as some pet said, I did take courses before and I have some people I see there that I was in class with.  
So hello to you guys.  
That's a just to class with me.  
I was in the feud class taught by Lee and Cheryl.  
Umm, so that's the capacity of my coding at this point.  
That was an HTML.  
Well, uh CSS and a little bit of JavaScript at the end.  
And I also took do another organization.  
I did take some beginner Python which was pretty tough.  
Umm, I will admit it had a lot of math concepts with the variables and things like of that nature, but I'm I spoke to you one on one about that.  
So just kind of hold my hand with that and I'll just use chat GBT to get me through it I guess.

 **Pat Lacey** 24:29  
Yeah.

 **Jeri Pierre** 24:30  
So the reason why I'm taking this course, I wanted to jump back into another course because I enjoyed the community.  
I I enjoy the the purpose this nonprofit has served for me as a career transitional person.  
I I have a bachelors in communications from St.  
John's University and I'm from Queens.  
Originally I lived in Hells Kitchen, New York.  
My husband and daughter and our two dogs.  
And I wanted to take, I wanted to transition to something that would be not just useful, but also would provide security and some flexibility to have a nice work life balance because I kind of run the household here.  
Umm, I do come from a entrepreneurial background.  
It used to run a tech after school program called Steam Kids Lab.  
It was stem and technology and arts together teaching youth how to code and also do arts arts programming.  
Umm so I'm.  
I'm like everyone has said, I'm picking back on it, but everyone is already said this is the future of technology and we're still in the early stages.  
And just like when computers, you know over 25 years ago had come out and everything was so, you know.  
And you know, so small.  
And then all of a sudden, everything took over.  
I feel AI is is at that at the precipice of that.  
So I want to be a part of this wave because it's I missed the first one.  
And I didn't listen to my parents and take computer science.  
I did take a business, but I didn't.  
I I wasn't interested in computers and that way until I got my first umm computer like personal computer back in the 90s and then I was like ohh wow I do.  
I can, you know, do this fun?

 **sho ogata** 26:37  
Umm.

 **Jeri Pierre** 26:37  
This is kind of interesting, and then as the years went on, my interest grew and grew and I'm an artist, so I kind of see using AI in a creative way to introduce people to art.  
So you performing and also you know to help your day to day life.  
Umm, you know, during my life I've been taking care of my parents to my children.  
So I think there could be like a, a the gentleman there that's in healthcare, there could be a piece of you know health care that could you know help assist people with their with their lives through AI not just you know ordering your favorite you know meal or or tell me how to you know create an ebook or you know things of that nature or something that could really impact so that's what I'm interested in doing umm.  
Once I learn you know how to operate, you know this, this AI world and where I fit in, umm and my favorite hobby.  
Umm.  
Well, I live in New York, so there's so much to do, but I love to kind of walk with my dogs.  
I love going to Broadway shows and concerts and spending time with friends and family, and I love being outside, especially now.  
The weather is beautiful.  
So.  
So that's me, so I'm happy to be here.  
Thank you.  
For your time, Pat and I look forward to spending the rest of these next few weeks with you guys.

 **Pat Lacey** 28:12  
Awesome.  
Great.  
Thank you so much for those answers.  
I really appreciate it.  
And yeah, a big thing that I am really excited about is that we have this group of students that have gone through 10 code, umm in multiple other ways and we can all kind of I was in a Python 2 course last semester and I really wanted to work on the communication that have keeping the discussion open.  
Umm.  
And really, I don't want anybody to feel uncomfortable with sharing their opinion, even butting in when they feel like it's really important and asking questions.  
Especially, but also just, uh talk speaking their mind because that is a very important thing here and it is really nice to see that we have kind of returning students, hopefully a little more comfortable with that.  
Umm, so great.  
We're gonna move on to JJ.  
EI please tell me if I pronounce that right, I wanna make sure.

 **Jie Wang** 29:26  
Yeah, is is right, it's correct pronunciation.

 **Pat Lacey** 29:29  
OK, awesome.

 **Jie Wang** 29:31  
OK, so my name is Jay Wong and but you guys can call me like a day now.  
It's maybe like easy to pronunciate and I've been living in New York like 4 years, so I'm actually like a a kind of new New Yorker here.

 **Pat Lacey** 29:53  
Umm.

 **Jie Wang** 29:54  
Yeah.  
So why are you taking this course?  
So I like a I like this course.  
I feel like a very interesting like a I feel right now many industry industries are like all like a involved in the AI, like games like a financing and also like uh, magical.  
So I also have a many friends.  
They do AI related in a like a some on medical or finance.  
So I feel a I would be a trade in the future.

 **Pat Lacey** 30:43  
Definitely.

 **Jie Wang** 30:43  
Have you?  
Yeah.  
Have you?  
So I I program before I took the Python one like a yeah, like a this brain.  
I son is on one.  
Have you used AI before?  
Yeah, I use a I definitely like a challenge BVD like everybody talked about that.  
So, but I feel sometimes when I have like a very question, I don't really know.  
I definitely Google like the AI and also my friend they they they even ask her child to be about their like a personal life.  
So I feel like it's very, very interesting.  
Uh, what's my what's your favorite hobby?  
Ohh.  
I like hiking.  
I like travel and the movies and maybe hang out with friend like a get some drinks or something like that.  
Oh, actually, I'm right now in the Seattle, but I probably have like a 3 hours difference.  
So right now here is like a a just like a 330I know.

 **Pat Lacey** 31:58  
Oh wow.

 **Jie Wang** 31:58  
I know.  
Yeah, yeah, I know.  
Is like evening in the New York, but I will be back in two weeks.

 **Pat Lacey** 32:06  
Awesome.  
Yeah, uh. Fun fact.  
My sister lives out in Seattle.  
She's a mechanical engineer and she lives out there so.

 **Jie Wang** 32:12  
Yeah, I feel.  
Yeah, I feel like in here, like everybody, they do tag like ohh my God.

 **Pat Lacey** 32:17  
Yeah.

 **Jie Wang** 32:18  
Like I met every ohh most people in here.  
They also work in the tag.  
I feel ohh wow.  
It's so cool.

 **Pat Lacey** 32:27  
Yes, a great thing, especially with AI.  
But great thing about the technology of the world.  
It just keeps on growing and we keep on, you know, adapting to the times and that hopefully is the the trajectory of the future, you know, making uh.  
It's so that we don't need to have millions of people.  
Just, you know, shoveling and stuff like that and instead actually, you know, being creative and everybody being able to, you know, be safe and expressive of their their thoughts.  
So great answers, Jay, that is amazing.  
And we're gonna kick it off to Joseph.  
If you could just answer those questions real quick.

 **Joseph Vinisky** 33:15  
Sure. iPad.  
So yeah, I'm my name is Joseph Vinisky.

 **Pat Lacey** 33:17  
Right.

 **Joseph Vinisky** 33:20  
So I just took Python two data analytics with with pad and three uh.  
Pat is great.  
Great teacher really knows how to explain stuff, so I'm really psyched about this.  
The scores and the and hopefully I'll get a lot of as much out of that as I did out of the previous one.  
Uh, have you programmed before?  
Yes, I have a Java and lately Python, so I'm still, you know, still work in work in progress.  
But you know, I'm.  
I'm.  
I'm making good strides and hopefully I'll I'll be more or less proficient in it.  
Uh, before too long and.  
I have you used a I before?  
If so, what capacity?  
Yeah, I'm using this on a daily basis.  
I actually have a subscription.  
I got this subscription but two months ago to GPT four it was like 20 bucks.  
I think now it's 4 optimized for all, right?  
That's the latest version, which is awesome.

 **Pat Lacey** 34:27  
Yep.

 **Joseph Vinisky** 34:30  
And yeah, this is definitely, you know the you know the, the, the the way.  
You know, the way the way to go.  
Look, going forward this you know, it's just gonna be everywhere.  
And as the these data sets are or what's called Lt right large language models as they grow, and as these systems get more and more refined and and trained up on these things, it's just going to be fascinating.

 **Pat Lacey** 34:53  
Yep.

 **Joseph Vinisky** 35:02  
Yeah, I'm still puzzled as to how exactly this works.  
I kind of like no very high level.  
Hopefully this glass will dispel some of the so yeah, a lot of that uncertainty for me and umm.  
Yeah.  
Like, that's sad.  
The the great for resumes, resume writing and and emails and whatnot.  
I mean they, the deputy and and yeah, I'm hope.

 **Pat Lacey** 35:26  
Yeah.

 **Joseph Vinisky** 35:29  
Hope I'm hoping to be able to, but they on this class be able to create my own, you know, apps like specialized apps.  
You know, I have friends that are lawyers and whatnot.  
So maybe like a legal.  
Uh, you know, app legal AI.  
Something illegal dot A I'm sure it's stars.  
They're taking it.  
But you know, that's just why idea and how to like focus on a specific subset of knowledge.  
So yeah, I mean Skype the limit.  
I'm.  
I'm really psyched about this and.  
Am I a question to follow?  
I follow you mentioned you from Brooklyn, right?

 **Pat Lacey** 36:10  
So I lived in Brooklyn for a little bit postgraduation I'm born and raised here in Albany.

 **Joseph Vinisky** 36:16  
No.

 **Pat Lacey** 36:16  
Ohh you said Farley.

 **Joseph Vinisky** 36:16  
But like, like Farley follow.

 **Pat Lacey** 36:17  
Sorry.

 **Joseph Vinisky** 36:18  
Yeah, sorry.

 **Pat Lacey** 36:18  
Yeah, right.

 **Joseph Vinisky** 36:19  
Yeah. Apologize.

 **Farley Toussaint** 36:20  
Ohh yes, I'm in Brooklyn.

 **Joseph Vinisky** 36:20  
No, that's OK.  
Where?  
Where where abouts that it wouldn't happen to be prized, would it?

 **Farley Toussaint** 36:26  
No, I'm in Brighton right now.

 **Joseph Vinisky** 36:28  
OK, that's why I used to live.  
So you know, we have a lot of people from downstate now I'm in Albany.  
Uh, but.

 **Farley Toussaint** 36:34  
Hmm.

 **Pat Lacey** 36:34  
Yeah.

 **Joseph Vinisky** 36:36  
Uh.

 **Pat Lacey** 36:36  
I used to live by the Prospect Park area.

 **Joseph Vinisky** 36:39  
OK. OK.  
Yeah, that's not too far away.

 **Pat Lacey** 36:40  
Yep.

 **Joseph Vinisky** 36:42  
It's right near.  
Yeah, probably museum and the library.  
Yeah.  
And it's.

 **Pat Lacey** 36:47  
Yep, Yep, Yep.

 **Joseph Vinisky** 36:48  
Yeah.  
And the like, you know, Grand Army Plaza?  
Yeah, that's right there.

 **Pat Lacey** 36:53  
Yeah, yeah. Beautiful.

 **Joseph Vinisky** 36:53  
Yeah.  
Alright, what is your favorite hobby?  
Ah, I don't really have one.  
I have a 9 year old, so that's my hobby.

 **Pat Lacey** 37:02  
Yeah.

 **Joseph Vinisky** 37:03  
I really have time for anything else and, you know, thank God for that.  
But when I left time I like to, I like to paint.  
Yeah. I'm.  
I'm I'm a little hesitant to, you know, share offering right, right now maybe with the help of AI at the end of this class.

 **Pat Lacey** 37:17  
Yeah.

 **Joseph Vinisky** 37:18  
I'll I'll image you guys, but no, you know thanks for rolling me in, in, in the in the program and I'm really looking forward to getting all this, you know, awesome knowledge from Pat.

 **Pat Lacey** 37:31  
Awesome.  
Yes, great answers there, Joey.  
OK.  
Just moving right on.  
Umm, Kevin, if you could just unmute and answer those questions real quick.

 **Kevin Weiler** 37:47  
Sure.  
Why am I taking this course?  
Well, it has some immediate application.

 **Pat Lacey** 37:51  
Real quick, Kevin, I don't know if it's something on my end, but you are coming in a bit quiet.

 **Kevin Weiler** 37:58  
How's this?  
Is this better?

 **Pat Lacey** 37:59  
Awesome.  
Yes, I guess it was just my placement. Yep.

 **Kevin Weiler** 38:01  
OK.  
Sure.  
So I'm taking this course because it has immediate application to my current position.  
I'm a principal software engineer at a small defense contractor and the companies already started to do a couple of projects in a I.  
So my colleagues have already worked.  
Worked with large language models on a couple of projects and so I wanna make sure I have the skills to be able to do those kind of projects as well and have I programmed before and if So what languages?  
Yes, in my 35 year career as a software developer, I've used a few programming language.

 **Pat Lacey** 38:42  
Yeah.

 **Kevin Weiler** 38:42  
It's everything from COBOL on mainframes to C++ on supercomputers, and now I'm doing Python And Flask services on Kubernetes clusters.  
So yeah, I've done done a little bit of everything I have.  
I used AI before one of those recent projects I've actually partnered with a couple of my colleagues and I'm actually, you know, building services that are talking to models that they've developed, right?  
So I've sort of worked adjacent to AI, but not on the AI piece myself other than using, you know, Chachi, PT and other other online tools to help with my Python coding.  
Since I've done while I've programmed in lots of other languages, I'm I'm newish to Python so I'm I'm asking it Python questions every day.  
Ohh, what's my favorite hobby other than?  
Is somebody else mentioned a 9 year old?  
I've got the the 21 and a 19 year old so so I'm trying to get trying to get them off to you know, off to college is the part of my and the other one is is photography.

 **Joseph Vinisky** 39:39  
Yeah, I have a couple of those too.

 **Kevin Weiler** 39:50  
In fact, the the picture behind me here is an F16 I think was from the Schenectady Air and Space Museum.  
I took that.  
I took that picture at the scanner to the Air and Space Museum.  
Yeah.  
So I I live in Clifton Park right now.  
I'm in a I'm on a business trip out to Boston, but that's pretty much it for me.

 **Pat Lacey** 40:11  
Awesome.  
Yeah, I I love the background.  
Yeah, it's great to have you on here.  
You might even know.  
Ohh well you do or no.  
Probably a whole lot more about code and its entirety than I do, but again, yeah, Python is a great language for AI, especially with a the high level that it is.  
It does a lot of the tasks that that we would probably need to code in like a C++.  
Umm, just kind of all under the hood.  
It's the interpretive language that is the beauty of it.  
And yeah, uh, let's just keep on moving with these.  
Maddie, if you could just mute unmute.

 **Maddie Newell** 40:58  
How did folks?  
How are you?  
Can you hear me?

 **Pat Lacey** 41:01  
And Yep, you sound great.

 **Maddie Newell** 41:01  
Alright, cool.  
Hi.  
Thanks so much.  
I'm so excited about this class.  
I have been with CanCode.  
This is my second class.  
I was in queue one one with a few people.  
And so I've been doing, you know, the standards and then I'm self teaching myself by Python.  
I've I've transitioned from a very in person customer service based job into and pivoting into this.  
So that's that's why I want to take the course is, is to.  
Yeah, I'm.  
I'm doing a 180 from being ohm 1010 years in Washington DC uh in the theater and music realm.  
So and and I also have a background in music technology and production recording and.  
And I've always been like a techie person, but I guess I'm I'm gonna get back into it.  
I have used AI, but you're a very general realm that everyone else has.  
My favorite hobby I have a lot of hobbies, which is I think another reason why I'm pivoting.  
You know my professional career to something a little bit more remote, but I love rock climbing.  
I love anything outside.  
I'm a big I love dogs.  
So like if you wanna show me your dog on camera, I would love that.  
But yeah, yeah.  
Awesome.  
I'm I'm so excited to be here.

 **Pat Lacey** 42:46  
Awesome, great answers and uh yeah, I don't.  
And my dog isn't here right now, but I'm sure in the 12th week span we'll get a a quick view of my dog's flash.  
He is?  
Yeah.  
I mean, personally I think he's the cutest dog ever, but I've heard a lot of reviews the same. So.  
Yes, great.  
Having you in class, Maddie.  
Uh, and we are going to.

 **Maddie Newell** 43:09  
Ohh yeah, and I'm in upstate New York.  
Just let it like everyone's in New York.  
I'm in Lake George, yeah.

 **Pat Lacey** 43:17  
OK, very cool.  
I'm great.  
So we are gonna keep it moving.  
Show.  
Is that how you pronounce your name? Awesome.

 **sho ogata** 43:24  
Yeah, yeah, yeah.  
My name is show Ogata from Japan.  
Can you hear me?

 **Pat Lacey** 43:33  
Yep, you sound great.

 **sho ogata** 43:34  
Yeah, two years ago I moved from Tokyo to New York.  
Uh, about the the Python, it about the about 10 years ago I heard the Python some person program when I working in Tokyo program in Python.  
I want to learn Python at that time, but I have a very busy now and here is the chance for me.  
I can learn Python from here.  
The so I very interesting.  
Ohh ohe this chance, have you ever programming before?  
Yes, I use the sea language.  
I use the Microsoft videos studio for Video Basic and she plus plus and the programming for the Windows and also programming for the embedded for the microchip.  
The for the controller.  
Uh, have you?  
Use the AI before.  
Yes, I have the type GPT account.  
I use the uh API to yeah revise my English.  
I it's a very useful from me to improve my English.  
What's your favorite hobby?  
I like sports.  
I when I was young I am is right and I I'm good at tennis.  
It's a my hobby.  
I like more movement, but to keep fitness that's all.  
Thank you.

 **Pat Lacey** 45:44  
Great.  
No, thank you.  
Yeah.  
And actually, a cool fun fact that I learned recently.  
The transformer model which we will get into further on in the course, but that is the model that chat, GPT, Google, Gemini, any of these large language models are built upon.  
The transformer model initially was created for this translation process, creating easier translations.  
So it is a great, you know resource in that factor umm in that is kind of the inception of what we have today is through just figuring out a a solid answer to translation which I thought was really interesting.  
Umm, so great answer show we will move on to Victoria.

 **sho ogata** 46:41  
Yeah.

 **Pat Lacey** 46:45  
If you could just unmute and answer those questions real quick.

 **Victoria Forrest** 46:50  
You are.  
Ah, hello.  
This Victoria, I recognize a lot of people from Python.  
One, it is probably the first time most of them home my first time because usually I answered in chat.  
Umm.  
Adrian's cursor.  
I could go and get a remote job.  
He has.  
I have physical and transportation limitations.  
Uh, I take a talk.  
All of the food in courses now.  
Like working in the back end like like Python one ah.  
And to go as a SQL.  
Now the front end ones was I was asking Emma.  
CSS. JavaScript.  
Uh.  
Never use.  
Uh, if so?  
OK. Yeah.  
Yeah, I guess.  
Pretty much all websites have it now.  
So like the Bing API and stuff.

 **Pat Lacey** 48:00  
Yep.

 **Victoria Forrest** 48:01  
No, I've when you using it for search things like it when.  
Grandma was like looking for German.  
Was she forgot or something?  
Uh, let's see.  
Fairly happy.  
Uh.  
Favorite hobbies?  
Yeah.  
Well, all my hobbies.  
It tented.  
I sent on night stories like Ohh the tea, CG or like the text are peas.  
Reading.  
I paid my Jonny kind of book.

 **Pat Lacey** 48:41  
Awesome.  
Thank you for those answers.  
Those are great.  
UM yeah, I am really excited.  
I'm really happy that almost everybody answered that they have used AI before and have our our using it in their everyday lives.  
Cuz umm, you know that is a lot of this course.  
It's just getting familiar with it, and if you already are a bit familiar with it, it just makes it that much easier.  
So let's get through the expectations for the course.  
As we've talked about, participation is always encouraged, emphasized here and CanCode we really want everybody to work together, input their thoughts and their opinions when they can.  
Uh.  
Please ask questions if you have them.  
There is no such thing as a dumb question, as especially in a kind of crazy world of AI where there's developments everywhere.  
There's new tech.  
It's always good to ask the simple things, cause sometimes that's where the all the connections between all these other things make so much more sense.  
UM, reach out if you need any additional help.  
I am the solo instructor for this course, but that does not mean that I can help.  
Can't help you all.  
I will have a office hour set up of at the end of class.  
I'll be polling for the office hour time, so that way we can make sure that everybody's well, at least most students, can access me during that time.  
I don't wanna be sitting around in a office hour doing nothing ohm, but if you can't reach me with office hours, we can always set up a one on one.  
We'll just set up a teams call or Google me call and you'll be able to show me your screen.  
If you needed any coding help or anything like that, we can always set that up.  
Just feel free to reach me on the phone or email, which we'll get into details in a few minutes and we will schedule, but the best of our ability between myself and your schedules.  
Umm.  
And lastly, you should be completing any exercise assigned.  
There is almost a take home exercise for every class here.  
I won't be, you know, asking for people to submit every week or every class, but I will make sure I will be asking for you guys to hand in a couple throughout this semester, and I will make sure to let you guys know, umm, when I signed the exercise that this will be handed in before next class.  
So yeah.  
I believe everybody got the welcome guide I will be sending out some more emails further in the week, so if you haven't just be on the lookout for that, it's pretty much just the handbook for student and instructor umm etiquette and everything like that.  
Nothing too serious.  
So yeah, let's get into the outline of the course.  
Uh, here, we have projects we are going to have two big projects that we are going to cover.  
We have a midpoint and a final project.  
The midpoint project is going to be building a AI chat bot with the function calling capabilities.  
Uh, and we're going to connect those.  
We're going to connect information from other sources, whether that be a data set or an API, which will get into API further on.  
And we will connect those data sources that are real time and verified information to the AI chat bot to give us the correct information.  
And newer information, I know a lot of people here said talked about using chat GPT and you probably ran into an issue one or once or twice about asking about current information.  
And this is something to kind of get around that?  
And then final project, we will be building a AI model.  
This one is the convolutional convolutional neural network, also known as CNN, to classify handdrawn digits.  
A very cool.  
Task that we have and we'll learn about the training process in that and we'll learn how a lot of these models come to be through a a method called hyperparameter tuning.  
So the project details will be presented to closer at the time of project, but real quick.  
Uh, let me see.  
I'm just going to give you guys a quick look at the final uh, documentation.  
So we can kind of see where we are all headed towards.  
Umm, does everybody I know I might have.  
Set my screen sharing a little limited.  
It does do people see the slides or the the final project document?

 **Daniel Durango** 54:38  
Final project documents.

 **Joseph Vinisky** 54:39  
Of the foundation.

 **sho ogata** 54:40  
Yes.

 **Pat Lacey** 54:40  
False.  
Glad it switched over just fine.  
Umm.  
So yeah, we got the final project.  
This is going to be the data set that we're going to be dealing with and we're going to be using Pytorch, which is a Python library.  
We will talk, talk about that further on in the lessons and yeah, the big thing is we're going to be going through loading the model with the data set.  
Basically setting up the data set, doing all the preprocessing because there is a good portion of preprocessing that we have to do with a lot of data to get it ready to be interactive with the and model.  
And then we have our training sessions and then we do the hyperparameter training within that where we create multiple models and we try to evaluate umm all these models on the same data test set and we will see which one performs the best and ultimately that is what they do at open AI and other AI companies.  
They create these models, they try tweaking all the numbers and parameters and they train that.  
And then they use that the best model that they have, they obviously do a little more intricate kind of adjustments along the way after fully deploying it.  
But that is the main concept of creating a model and yeah, so down below here is just some more requirements for the code we are going to have a really cool fun thing where where we create our own data set of hand drawn digits which will get into it's pretty easy process and we'll test the model on the the data set that we trained it on as well as our own created data.  
And that is a really interesting thing to kind of understand the relationship between what a user would give to a model and what it's been trained on so.  
Then we got a little write up.  
It's not gonna be anything too long or arduous of a process to do.  
Umm, just printing, much going over your research.  
Uh, with the fine tuning and adding some figures to help show that, and even the code snippet.  
Preferably you're training loop so we can see kind of how you went about it.  
So yeah, just a quick little peak of the.  
The rubric obviously will go into all of this further down uh in the class when we get closer to the final project.  
So yeah, does anybody have any questions?  
We kind of just outlined the class and actually, yeah, I'm gonna open the the panel up for any questions while I pull up the the syllabus.

 **Joseph Vinisky** 58:12  
Umm.  
Umm no, I have it right in my yeah, other class is gonna be recorded.

 **Pat Lacey** 58:18  
Yes.  
Yes.  
So this class is being recorded right now and we will have that accessible.

 **Joseph Vinisky** 58:23  
OK.

 **Pat Lacey** 58:30  
In the.  
In the teams folder that is, I believe I showed it earlier, but real quick.  
Yeah, it's going to be on the general panel of the team that is this class and then there is on the files tab, there is a folder called class slides and summer AI syllabus.  
That is where the recordings will be.  
I'll try my best to get them up as soon as possible after the class.  
I think it should be a pretty quick and easy thing for me to do.

 **Joseph Vinisky** 59:07  
Thanks.

 **Pat Lacey** 59:09  
Any other questions before we get into the syllabus?  
Awesome.  
Sue real quick.  
OK.  
And people see the syllabus now.  
I'm not looking at the call, so if somebody could just, uh, unmute and say yes or no.

 **Maddie Newell** 59:46  
Yep.

 **Pat Lacey** 59:47  
Awesome.

 **Daniel Durango** 59:47  
Yep.

 **Pat Lacey** 59:48  
Thank you.

 **Jeri Pierre** 59:48  
Yes.

 **Pat Lacey** 59:51  
So yeah, here is the syllabus.  
Obviously I filled.  
Ohh yeah I am showing you guys the wrong document.  
I filled out a form for the summer one.  
That's what I meant to pull up here.  
So so this is what you guys saw.  
Obviously you guys all made it to class, so you guys know class times.  
This is where you can access my email or phone information.  
This came out with all the the welcome emails, but it's also in the teams file section as I just discussed.  
P.lacey@albanyacademyalbanycancode.org and the phone number is 518-238-6808 ext 717 umm.  
I am most active on email, but you can always give me a call or shoot me a text that works as well.  
But yeah.  
Just a quick I pretty much kind of overviewed the course description.  
And the software requirements for anybody who joined the before.  
After I mentioned this, this course does work with Python And Visual Studio code.  
You can use other Ides, but I would like to keep it within a Visual Studio code or a pie chart.  
Those are the two most popular IDE's that I know about, and I think that would be the ohh probably extent that I would.  
Allow for so if anybody doesn't have Python or Visual Studio code.  
Please feel free to reach out to me these links on the the syllabus, just bring you right to the installation link so it should be pretty self explanatory.  
But again, if you run into any issues setting it all up, please let me know.  
We don't run into code.  
Umm, too fast so it shouldn't be too much of a rush either so.  
Let's get into course structure.  
We talked about final projects.  
But then we have goals creating efficient workflows for current AI tools.  
Ohh, creating our own AI tools for will use and then understanding the inner workings of a known network and umm creating our own models for.  
Private use and for just creating new model.  
Set help perform different tasks. Uh.  
And our objectives here write code, interact with AI models, create our own chat bots using open AI API and understanding the landscape of AI technology overall and just understanding where there are gaps, where there's limitations where.  
Technology is still expanding.  
Even in a I, there's a lot of kind of with a I like the difference between machine learning and deep learning, which we'll get into, but there's a lot of different areas where technology is kind of emerging faster than others.  
And so just kind of understanding the overall landscape.  
Ohh, the AI world is very important.  
And I kind of went over the technology is a big thing that we're going to be working with is API.  
This.  
I don't believe we got into too many UM through Python 2, but for all Python one and Python 2 users previous students.  
And APIs is going to use a lot of your understanding for dictionaries which we will cover kind of you know pretty quick at the start.  
Just recap kind of the use of dictionaries and we'll actually introduce JSON, which is a a string format of dictionaries, which is a little interesting.  
Uh, so we will cover that.  
API's is a really nice thing to be able to access data and services through code and it's going to it's going to be a really helpful thing to learn here.  
Not always.  
In AI, but also just as being a software engineer, being able to access the resources that are out there in the uh, in the Internet.  
So yeah.  
Here's just a quick, brief overview of our weekly schedule.  
We're going to be going over just basic use of chat bots and pumped engineering this week.  
Model quality benchmarks.  
AI tools next week, and then we'll get into all the different types of processing that you can do with AI models next week, week three, a week four is API utilization, which we'll get into all that API goodness that I was talking about.  
And then week five is our first project and we go into link chain capabilities and retrieval augmented generation as well as the actual.  
Ohm components in architectures of neural networks and then we will talk about hugging face, which is really nice resource for AI models and we'll talk about kind of the the hardware that this all this processing of training the AI models is done on and then we will wrap this up with the ethics, safety and future of AI and that is always a fun conversation.  
I'm sure we'll talk a lot about that within a lot of the weeks prior and that is that will wrap up the main course material and then we'll go right into project two, which we have two weeks, a lot of for.  
So you guys should have plenty of time to do to have in class work sessions as well as to get it done on your own time so.  
Any questions about the syllabus real quick before I move on?

 **Daniel Durango** 1:07:30  
Yeah, I have a quick question.

 **Pat Lacey** 1:07:32  
Yes, Daniel, what is it?

 **Daniel Durango** 1:07:33  
So typically on a regular class we have a like a break in between 15 minutes 10 minutes.

 **Pat Lacey** 1:07:40  
Yep.  
Yes.  
So we are going to actually we're about to get right into that cause after I feel more syllabus questions, we're gonna get into the actual course material for it today and then so we'll have that break.  
I just wanna make sure everybody else, if there's any other questions real quick.  
Alright so.  
Umm, let me just double check.  
Make sure that is where we are in the slides.  
Yep.  
So yeah, every class we have 15 minute break.  
I really emphasize getting up, stretching out, staying at a computer for three hours is not healthy, and health is a big factor in being, you know, efficient within workflow.  
A healthy body is a healthy mind and it really helps when you can take a step away even while learning information.  
Sometimes even just, you know, thinking about the information that you are learning about while you're not just staring at the screen can help you kind of understand it a little bit better.  
Umm and yeah.  
If not, it's an extra 15 minutes just to get some water and scroll.  
Tick tock or something.  
So we're gonna take the 15 minute break now and we'll all be back at 7:16.  
And yeah.  
So I'm going to go camera off, but if anybody has any questions, feel free to pop from it.  
Alright, so it is 7717.  
If everybody could just put in chat that they're back on their computers, just making sure that everybody.  
It back before the break.

 **Daniel Durango** 1:25:43  
Are your camera was pretty cool, it follows you.

 **Pat Lacey** 1:25:48  
Is my computer doing something?

 **Daniel Durango** 1:25:48  
Maddie.

 **Pat Lacey** 1:25:49  
Oh, no.  
Yeah, I saw Maddie here.

 **Daniel Durango** 1:25:50  
Now Maddie, camera.

 **Pat Lacey** 1:25:53  
What there was like a thumbs up bubble that kept on popping up.

 **Maddie Newell** 1:25:57  
Oh yeah, there's a whole bunch of emotions that I I have yet to explore, but with my hand gestures, I think they'll, you know, they'll make an appearance.

 **Daniel Durango** 1:26:07  
That's what the the Mac, right?

 **Maddie Newell** 1:26:07  
But yeah, it does follow me.

 **Pat Lacey** 1:26:07  
OK.

 **Maddie Newell** 1:26:09  
Yeah, this is a.  
It's on an iPad.

 **Daniel Durango** 1:26:12  
OK, got it.  
Right, right.  
OK.  
Yeah, it's it's a new.

 **Maddie Newell** 1:26:14  
But yeah, I don't know how to turn it off.  
I mean like I could probably look into it, if it's distracting, but it's distracting to me because I'm like.

 **Daniel Durango** 1:26:21  
I think it's cool.  
Yeah, can't run.

 **Pat Lacey** 1:26:30  
Awesome.  
If everybody could just type in chat, uh.  
Especially if people that aren't on cameras.  
So I know making sure that we're all back before I get into the class material.  
So.  
I love the the emojis we're getting in here.  
All right.  
Well, let me just jump right back into the class material.  
Share my window.  
Great.  
So just to double check, everybody can see the the slides.  
Awesome.  
All right, so we are starting off the course material.  
So obviously we're going to introduce artificial intelligence.  
AI is short for artificial intelligence and a quick breakdown of the words is always helpful to understand the actual meaning.  
Intelligence is the ability to acquire and apply knowledge and skills.  
Artificial intelligence is the science of training computers to display intelligence.  
And what we like to say a lot is ohm, that there we try to mimic human intelligence, but ultimately these AI machines are going to.  
He weighs more powerful than human intelligence ever will be.  
Granted that humans have, you know, this physical body that needs 8 hours of sleep, needs rest and needs a lot of other things to keep going at the pace that a computer would be able to keep up 24/7 365 and though a lot of what we're talking about here is creating human Intel human, like intelligence within these AI systems so that they can in the future be superpowered because of those.  
Because of those human restraints and the that they don't encounter.  
So a lot of AI is wrapped up in the neural network model.  
There are some models that will get into that.  
Aren't all neural networks but of neural network?  
Is the foundation of a lot of these models and is a big reason why AI is where it is in its trajectory.  
Umm, a neural network?  
Uh is designed to be such thing as a decision making system.  
It has the structure that mimics a human brain as inspiration, and honestly, I've never been a never known too much about the human brain.  
But uh, something that I've been learning recently is that the nervous system is actually just electrical signal that gets sent through your body to your brain.  
And this electrical signal goes in.  
Fires on all these neurons that are in your brain and the neuron.  
A path that happens is technically the brain processing between its different parts and creating that decision making system that is your brain overall.  
So UM in neural networks, we try to replicate that.  
We create these things called nodes or neurons, and we create multiple layers of it and we try to kind of mimic the that path of neurons firing and sending information to other neurons which will fire, and they're all interconnected and interweaved, which is a big focus on it.  
These networks are trained on terabytes of data and.  
Pick.  
And it builds the necessary relationships between the nodes to make the prediction of the correct response.  
I know.  
Uh, terabytes might sound like a lot because, you know, we deal with megabytes and gigabytes on our computer.  
Terabytes is the next step, and terabytes does seem like a lot of data when dealing with computers.  
But AI models, umm, like large language models.  
There's a reason the first L is large.  
It's because they do require so much data to make these inferences and other areas where it doesn't have as much data kind of helps fill in the gaps with all this data that is given, and I know it sounds like a lot of data, but if you could just think about your human experience and how much data a picture is and how much data you're you've actually experienced through just living your life 20.  
Ohh well, maybe not 24/7 cause sleeping isn't exactly a whole lot of umm receptive data.  
But you know, 18 hours, seven weeks a day, you're up active receiving inputs through your eyes, your ears and your sense of touch and feel, which is just a whole lot of data that a computer can never even fathom.  
So this is replicating the human brain with a, umm, a system that is way less, umm, set up and developed.  
Then the human body and the human brain.  
So let's move on the importance of AI lies in its name.  
Artificial intelligence is a very helpful thing for humans, since we are regarded as one of the most intelligent beings on Earth.  
I think I've heard discussions where people try to say that dolphins are maybe a either at our level or maybe even smarter or mice or something like that.  
I truly believe humans are the most intelligent and creating an artificial intelligence system on top of that allows us to, you know, get to our answers faster, take away a lot of these drawbacks that are us being limited to our human bodies and our capabilities.  
So that's always helpful.  
And again, these run 24/7 365 and they will uh, you know in future modeling in future development you know they will be able to learn on their own a lot of AI learning right now is just us feeding in data sources data sets to these models and then just operating through that and maybe some reinforcement learning which we'll get into how that works but you know training on its interactions but.  
But ohh, you know when we get to a system where an AI can go out and actively learn for itself, we're going to have just that much more intelligent of a system and that kind of leads into the next topic.  
Automating intelligence systems can lead to significant positive or negative outcomes.  
The future of AI is heavily debated and you can have a super positive view on the development and the opportunities that it gives humans to be more efficient and worry less about.  
Time wasting tasks and such, but it can also be used negatively.  
It can.  
It really, really is valuable.  
A.  
The next 5 to 10 years, I'd say with the trajectory of AI development and you know, governmental.  
Uh, legislation that will be passed, hopefully in the near future regarding all types of topics that revolve around the use of AI.  
Umm, which again we will get into closer to the end of our course very heavily, but this is something that we will have to think about and we should think about throughout all the steps of learning about AI is it's efficacy.  
It really can be used to do something great, but we can also understand that something great can be used to do something bad as well.  
So how can we use AI to do something great?  
How can we use it to improve our work?  
We can leverage AI on multiple levels and we will cover all of these levels down to chat bots, which we've talked about a lot.  
A lot of you guys are experienced with using chat, GPT, other models like Google, Gemini.  
I don't know if this is a little less popular of a model, but flawed from anthropic is also a great model, and then perplexity of heard a bunch of people mentioned that grape models to use for learning, writing, and planning things out.  
I use chat Tripp PT for a lot of uh, my professional emails.  
It always helps me just have them a very math and science person.  
Uh, so writing things out, making sure and also just kind of double checking.  
Umm, just kind of a sanity test to a chat bot is a lot easier than you know, sending it out to human to draft.  
Uh.  
A response or something like that.  
And then we got task specific tools.  
Now this incorporates a lot of things.  
This is kind of the implementation that we see in a lot of companies and products that we were talking about in the introductions, something that I use a lot is.  
GitHub copilot.  
I don't know if you guys have heard about it, but it is truly a something that is, uh, kind of Reed redefining what coding is, I don't think I am one to believe that a software engineering position will never be overtaken by AI.  
Maybe if AI decides to take over the human population, which I I think will hopefully never happened, but for the most part we will always need to deal with uh, a job of software development because we are humans, we are the end users of this software and products.  
So we are going to need to kind of, you know, the beer in hand along the production process.  
But what it is redefining with these code completion tools?  
These code generation tools and things of that nature is our true involvement.  
The way that we can use our knowledge of certain topics to not as much you know.  
Spend hours reading into documentation, fixing like spending hours on a a simple debugging tool debugging issue that could be figured out by just a brand new set of eyes or something like that.  
These task specific tools like GitHub copilot.  
There are also some other free models that we'll get into as well that will help us kind of be more of the production manager for a lot of our jobs.  
But code is just kind of the thing that I am using in this analogy.  
It can also be video editing and creative production and designing, kind of just all engulfed in what I was explaining there.  
And then.  
Last but not least, we can use AI to improve our work by creating our own models that are trained on specialized or proprietary data.  
A big thing that I've noticed is getting into this AI space is just the understanding of a data and the accessible data that is out there in the world.  
Ohm, we will talk a lot about this, but uh, you know 90% of the data I believe out in the world is personal data.  
And so there's a lot of data that's safeguard.  
Umm, obviously you don't wanna be giving out things like your bank information and or even just, you know, personal information that you would like to, you know, keep close to you, you and not close to others.  
Umm, those that data can be used to create a helpful AI model, but it's important to keep that to yourself.  
You know, a model can is a representation of the data that it's trained on.  
So a lot of companies are interested in having models that are trained on their proprietary data, their privatized data or just data that they know to be very helpful for a specific niche task.  
And they want to make sure that it's all enclosed within their understanding of it.  
So that is a big thing when we talk about job opportunities, creating models for specific companies is a big desire for a lot of these companies as we've seen a lot of implementation happening.  
Umm, it's just going to keep on spiraling upwards with that.  
Right. So.  
This is just kind of a extra quick exercise, just making sure everybody gets comfortable with chat.  
GPT.  
You're gonna sign up or log in if you haven't signed in or logged in before, you can feel free to use the.  
Uh umm CanCode email to sign in?  
You should have like some sort of Google access.  
It could be a easy login through there and just have a conversation with that.  
I know you guys said you've been using it.  
Uh, with some daily use.  
Try new things.  
Try to, you know, have some interesting conversations.  
Either try a new topic, umm, or just a different task than you normally would.  
Ask for it.  
Try to see where maybe it doesn't have the best answers for.  
And just try to like push its ability.  
Yeah, maybe ask for some more real time information if you haven't before.  
And throughout all this process, consider how fast the responses were taking, how long it would actually take you to get that response if you weren't just asking an AI like what your Google search would be, how long it would take for you to find the the actual link that had the true information, or something like that.  
And then what was quality of the response?  
If it was right or not, obviously you would need to ask something that you know the answer to to determine that.  
But you can also use critical thinking when asking something that you kind of know, but not sure of the actual answer.  
And then just ask ask yourself what training data do you think was used to respond?  
So like what training data do you think was passed in?  
Obviously with the thing like chat, GBT, there is a lot of data that is used just for understanding a.  
A language and just kind of the relationships between words.  
But what direct data?  
Like if I asked, you know why leaves turn orange in the fall?  
There is some specific data that is called upon to give me at least what it believes to be the factual answer to my question, and then overall, how creative do you think these responses feel?  
Uh, you know, some models can be very strict and very straightforward, and there's other models that.  
I think Elon Musk has been talking about his ex model grock, which was advertised as kind of a, uh, a silly, very sassy model that could answer kind of candidly on a lot of things that were kind of guardrail within chat, GPT.  
So that is always something to wonder.  
Is like are you getting a very strict answer to the question or are you getting kind of that lively human like response with some creativeness involved?  
So yeah.  
Sure.  
Get out from this.  
So I'm going to keep this up here.  
We are going to take about 15 to 20 minutes.  
Just sign up or log in to tragic PT and have few conversations.  
Obviously it doesn't need to just be 5 back and forth and.  
Let's say 7:40, so.  
Like 755?  
Let's reconvene and just talk about your experiences.  
Maybe if you like an answer and wanna show it to the class you can share your screen and we can all laugh about a funny response or something that you found insightful.  
And yeah, while you guys are doing that, if you guys have any trouble logging in or getting any access, it should be accessible without login now.  
But if you're having any trouble with anything, please feel free to uh, you know, pop in and say something before the time is up.  
I'm here to help.  
All right, I know I said 15 minutes, but I am feeling like I gave a good amount of time for you guys to have some conversations with chat sheet PT.  
And I would like to bring it back into the class right now, if you guys could just kind of tab back into the the teams and we can have some conversations about your conversations and umm yeah.  
So really I kind of just let you guys, you know, feel that out.  
I wanted you guys to explore with your conversations with chat, GPT. Umm.  
I'm curious to see what some of you guys got into.  
Does anybody feel very inclined to, you know, share with the the class?

 **Daniel Durango** 2:01:04  
I'm willing to share.

 **Pat Lacey** 2:01:06  
Awesome.

 **Daniel Durango** 2:01:07  
Alright.

 **Pat Lacey** 2:01:07  
Yeah, if you wanna share your screen or just talk about it, feel free to do either one.

 **Daniel Durango** 2:01:13  
I will share my screen.

 **Pat Lacey** 2:01:15  
Awesome.

 **Daniel Durango** 2:01:16  
This is it.

 **Pat Lacey** 2:01:18  
Yeah, I might need a stop sharing mine.  
Well, I think it did it for me.

 **Daniel Durango** 2:01:22  
You can you see it alright?

 **Pat Lacey** 2:01:24  
Yep, we see you.

 **Daniel Durango** 2:01:25  
So yeah, I I'm a big fan of cold brew.  
I drink it almost every day and I said I was the best way to make, you know, Cold brew coffee, you know, gradients and equipment step by step instructions, blah blah, blah.  
And that says enjoy your homemade whole group call.  
And then I said, is it unhealthy drinking cold brew?  
And then there's some health benefits.  
Little lower recidivism, antioxidants, caffeine content, a duration, potential concerns.  
You know, there's nothing in this.  
Life is 100% healthy.  
Moderation is key.  
It's nice that it said that and then I said, uh, when is the best time to stop drinking cold your coffee?  
Because eventually it does affect your circadian rhythm.  
What they say.  
So you know caffeine sensitivity, avoiding sleep disruption says, you know, your last cup should be by 2:00 to 4:00 PM personal tolerance daily routine test or reducing caffeine intake later in the day and then listening to your body best regions.  
And that's the 4th question.  
You're the last one.  
Ethiopia, Colombia, Brazil, Guatemala, Kenya and Sumatra.  
That's beans CanCode.  
Yeah, this is the last one that was worth one.  
I'm budget conscious.  
Being home with that and then, you know, tips for budget friendly cold brew by in bulk fordable beans.  
You store brands.  
Grind your own DIY and then maybe even gave me.  
Some like, you know, brands and like, you know, ways to buy it too, which is pretty cool.  
I've heard of 8:00 o'clock and yeah.

 **Pat Lacey** 2:03:13  
Nice, great conversation.

 **Daniel Durango** 2:03:14  
Umm.

 **Pat Lacey** 2:03:16  
I love the topic over the the morning caffeine.  
I am not a coal Boo fan per se, but I'm a big tea fan, so.

 **Daniel Durango** 2:03:27  
Mm-hmm.

 **Pat Lacey** 2:03:28  
Definitely.  
Uh, appreciate that.  
UM and yeah, a lot of what you talked about was really interesting, especially what you found interesting was like the reference to the brands.  
It seemed like that is something that is really cool, that it, you know, can give you some resources, resources to look into things on that is something to take into effect, take into account using other uh AI applications as well.  
Some of the information or resources might not be as up to date depending on the applications that we use, though this one seems pretty vetted because it's kind of it's not too time based, but that was great.

 **Daniel Durango** 2:04:26  
Umm.

 **Pat Lacey** 2:04:29  
Real quick.  
Just kind of going back to the questions to consider.  
Umm, seems like you got a lot of information under 15 minutes that would have taken you a good amount of time to just research all those different questions.

 **Daniel Durango** 2:04:48  
Like half an hour at most.

 **Pat Lacey** 2:04:49  
Yeah, yeah.

 **Daniel Durango** 2:04:50  
For sure.  
Yeah. Umm.

 **Pat Lacey** 2:04:53  
Seem good quality and yeah, what?  
This is something I what like data.  
Do you think was used that do you think the the model pulled from being trained on?

 **Daniel Durango** 2:05:07  
Yeah, I think possibly you know websites and articles so like definitely like maybe some coffee shops and maybe.  
The.  
Some, like you know, highly rated products that are online.  
I could see maybe you know some articles and or you know, like those Reddit answers, Reddit.  
Whoops.  
UM, possibly like a like a medical website as well for like the, you know, the strategies in in being healthy.

 **Pat Lacey** 2:05:32  
Umm.

 **Daniel Durango** 2:05:44  
And I could also see just like a like a big coffee brand, you know, use like their their methods and and their way of preparing their their own, you know, cold brew for sure.

 **Joseph Vinisky** 2:05:56  
Umm.

 **Daniel Durango** 2:05:57  
Yeah, it it definitely pulled from a lot of resources.  
I I don't know how many, but I would say definitely more than more than 7 or 10. Umm.

 **Pat Lacey** 2:06:04  
Yeah, I would agree.  
Especially the way that you directed the conversation, you approached cold brew from a lot of aspects like health, aspect, Price, aspects.  
You know, there's a lot of things where, like, maybe a medical related article got pulled in for the the questions about your sleep health and how when I should stop drinking caffeine.  
But then when talking about, you know how to, uh, I forget your wording, but especially like a the financial aspect of yeah, how to be budget conscious.

 **Daniel Durango** 2:06:39  
But your conscious, yeah.

 **Pat Lacey** 2:06:44  
It probably went to like a a little more of like a all encompassing.  
Ohh platform with a article just kind of how to be frugal about, you know, caffeine and stuff like that.

 **Daniel Durango** 2:06:56  
Mm-hmm.

 **Pat Lacey** 2:07:00  
So that was great.  
Thank you, Daniel, for participating at this.  
Anybody else want to kind of show what they would uh, they show their conversations?

 **Daniel Durango** 2:07:04  
Yeah.

 **Farley Toussaint** 2:07:13  
Yes, give me one second.

 **Pat Lacey** 2:07:14  
Awesome Yep.

 **Farley Toussaint** 2:07:16  
I don't know.

 **Joseph Vinisky** 2:07:18  
Our Pat can ask a question.  
Sorry.

 **Farley Toussaint** 2:07:20  
Ohh sorry.

 **Pat Lacey** 2:07:20  
Yes.

 **Joseph Vinisky** 2:07:21  
Yeah.  
OK.  
So Rick, yeah, I apologize.  
So OK, so like for instance just now, Daniel, did his call brew inquiry right?  
So when when the?  
When the bot accesses the data right, it it didn't not scraping like all the 1,000,000 different websites.  
If there's already, like canned amount of data like sort of like, I imagine my my my my my head is like a container, right?

 **Pat Lacey** 2:07:49  
OK.

 **Joseph Vinisky** 2:07:49  
Where it's just kind of like dips in and like looks up.  
Anything has to do with coffee.  
Cold brew, right?  
Maybe let's say limits itself to like, you know, ten sources.  
Right.  
And from that, it kind of regurgitates and spits out an answer.  
Is that in the ballpark or am I way off this?

 **Pat Lacey** 2:08:07  
Yeah, you're actually.  
Pretty spot on there.  
What I would say is you know overall you are correct that it does not go out and search for sources as much as it relies on its prior training.

 **Joseph Vinisky** 2:08:24  
Right.

 **Pat Lacey** 2:08:25  
So yeah, a lot of this information has been fed into the model for training and it uses that.  
It stores the understanding of all this information.  
The connections between the words in the vocabulary of English in this scenario and it makes that's what it actually is, is a next word, a prediction model.  
So what it's doing is essentially taking your question and just trying to predict the next word in the sequence.

 **Joseph Vinisky** 2:08:55  
Umm.

 **Pat Lacey** 2:09:04  
To answer your response, so it's taking all this kind of training data and predicting how to present it to you the best within its understanding of all that information and connecting it all together within terabytes of information.

 **Joseph Vinisky** 2:09:14  
Right, right.  
Right, right. Right.  
Thank you.  
Yeah.  
So basically I just wanted to understand if if it's like going out and scanning, scanning the entire, you know, Internet.  
But I guess not.

 **Pat Lacey** 2:09:30  
Yeah.

 **Joseph Vinisky** 2:09:30  
It's like a subset.  
Of small it's a small subset of of knowledge of I would say, and that it that it's that is trying to repackage right to answer this or that question.

 **Pat Lacey** 2:09:35  
Yeah.  
Definitely and from like that's a great question, cause it's definitely a good under helpful question to understand what is happening behind the box of chat GPT.

 **Joseph Vinisky** 2:09:44  
OK, alright, great.  
Thank you.

 **Pat Lacey** 2:09:58  
But there are also a lot of systems that will get into further where it does actually outwardly search for information and I don't know if how, uh, I don't know if you've been keeping up with recent AI news, but Google has been actually seeing a lot of of, you know, backlash against their system that they've set up where it sometimes doing that search to outward external sources like a a Reddit or Quora or some of these kind of user uh.

 **Joseph Vinisky** 2:10:08  
Umm.  
Yeah, right.  
Right, right.

 **Pat Lacey** 2:10:37  
Supplied information is not always the you know most verifiably accurate truth, so you get some funny answers.

 **Joseph Vinisky** 2:10:38  
You've been right, right? Yeah.  
The best approach, right?

 **Pat Lacey** 2:10:47  
But yes, that is the answer to your question and we'll get on to some of those.

 **Joseph Vinisky** 2:10:47  
Yeah.  
Great.  
Thank you.  
Yeah, sorry.  
I apologize. Yeah.

 **Pat Lacey** 2:10:53  
Yeah, no problem.  
Yeah.  
So we'll turn it back over to Farley here if you could just give us a little rundown of your conversation.

 **Farley Toussaint** 2:11:04  
Uh, so I've been using Chachi, BT a lot.  
I have the the upgraded version.  
I'm gonna just go on my screenshot.  
Just on my screen.  
OK, so like I've so I've been I've been deep diving for a long time.  
I I got.  
You know, I got the Dolly and and whatnot.  
So like this was like a project I had cause I really like avatar the Last airbender.  
If you don't know, you know ohm and I was always curious about Avatar Lord, so I asked it.  
You know, you know, create an avatar after one of them, and then they came up with this concept.  
This took about 5 to 10 minutes because of the loading time.  
Now when you're doing rendering the now what the 4.0 it's kind of like a little limiting.  
So when they ask you for like, certain things, once you do more imagery, you the more complex you make it.  
Even though it was a simple sentence, I asked a lot in it.  
You know what I'm saying?  
Because I needed to have the tattoos, the, this, the that.  
So it really had to work a lot harder.  
So that usually takes like 556 minutes to create these images and then you know from there I asked it what kind of name I wouldn't want and then it then it changed then.  
But the only thing I didn't like the imagery kind of went kind of changed.  
Like it couldn't stay consistent.  
I think that was my only issue.  
It's like it doesn't have that.  
I think someone talked about it earlier talking about like AI taking over.  
The thing with AI, it doesn't have that automated humane memorization right where, like, we can continue conversations, it doesn't have that memory bank.  
You're constantly inputting it and it's not getting ohm.  
It's not taking the information you just gave it and utilizing it to move it forward if that makes any sense.  
So like I did, like a couple of things like database.  
I don't know if this is coming up, but yeah, like resume, most of the stuff I use was like for resume and just overview on like you know career stuff like Python collaborations and stuff like that.  
But usually these responses and this is another image that I created off of my picture.  
I don't know why it's not loading right now, but they're just created like a Pixar imagery of of my face and it then he did like two of them.  
And this is the way concept became up with you know.  
So I feel like it's very in depth on on what you can do with it is just it's a, it's a, it's a little bit heavy.  
I'm done, but it's like a little heavier, but it's that I I think the only thing I have a problem with it.

 **Pat Lacey** 2:14:10  
Yeah.

 **Farley Toussaint** 2:14:14  
It just doesn't remember stuff like as much as we try to get it to be like, cause every time you know, I guess we always go into that doomsday theory as humans like.  
Ohh my God, this new technology is gonna outpace us.  
It really can't because the amount of data it needs, the downloadable data it needs right to to it has to be an Organism.  
You have to constantly be putting like my bandwidth like tons and tons of bandwidth.  
So to think that it would have to, it would be like one of those grand like it would be like a, a, a literally a spaceship walking around to to take, you know, take hold of it.  
You know what I mean?  
It's it's.  
It takes too much RAM.  
It takes too much power to and it doesn't.  
It just doesn't do the simple things that humans do, which is just memorize ship it it it can it's it's a I don't know.  
I can't really explain it, professor, but it's hard for it to remember what you told it three weeks ago, you know?  
So if you go here, can can you piggyback on what we learned two weeks ago and about this, it's very hard for it to input that data and remember where you left off every time you talk to it, it's like you're basically starting a new game.

 **Pat Lacey** 2:15:22  
Yeah.

 **Farley Toussaint** 2:15:37  
That's how I feel about AI.

 **Pat Lacey** 2:15:39  
Definitely.

 **Farley Toussaint** 2:15:39  
Well, at least this rendition of AI.

 **Pat Lacey** 2:15:42  
Yes, and that's a big thing is the which we will get into kind of why that memory storage isn't where it is, where it should be or where we kind of expect it too.  
But actually a nice feature that actually you will be able to access.  
I was just checking if the free users can also access, but they are actually implementing a memory system within chat.  
GPT.  
Uh, which is very interesting though.  
It's a little less on the actual conversational side and more on just kind of the account side.  
I've seen a few use cases, they seem to be pretty much very like personal information like, you know.  
Ohh my name is Patrick and I I really hate fish or something like that.  
And then you know, next time I ask about a, a recipe or something, it will never.  
It will remember that I don't like fish in that it won't suggest me a recipe with fish in it.  
That's just an example, but there is kind of that account memory that is trying to build on as part of the feature, but.  
Memory is a big thing.  
We'll talk about how the model processes information in a conversational history.  
With context Windows, there is a limited size to the amount of information that we pass through to these models at one time, so that is kind of the limitation where that memory happens and also something that I wanted to mention.  
UM, I really like that.  
You have to the membership to chat GPT.  
That is seems like a really helpful thing, especially with Dolly for the life of me, it's hard for me to understand how open AI has not allowed free access for Dolly yet, and I mean they had free access for Dolly too for a while, and now they just recently deprecated that.  
So, umm, I'm kind of jealous with that, but there is, I believe, being a Microsoft Bing uses Dolly within an image generator, so there is always an accessibility to it.  
I did want to touch on uh, the new model GPT 40 is.  
I know somebody mentioned the model before and yes, so this new model is something I know I keep on mentioning that we'll get into it further on.

 **Joseph Vinisky** 2:18:38  
Yeah.  
Yeah, I did, yeah.

 **Pat Lacey** 2:18:47  
But it is there is a lot to cover before talking about the intricacies of these topics, but for O is a the O stands for Omni modality and Omni modality is also known as multi modality which models is essentially what mode of data you're going to be inputting into the model.  
So this model that is GPT 4 O can take in images, text, video and a bunch of other inputs.  
Ohh and output the same types of data types all in different ways, but it is a new kind of aspect to the AI world that is developing a lot.  
So, umm, just kind of a a little fun fact.  
GPT 40 stands for four Omni.  
Umm, so yeah great response is there Farley?  
I was great.  
I really appreciate it.  
And just to cap it off, does anybody else want to, you know, kind of show their conversations, show their experience, at least just talk on it, what they've noticed in their experience?

 **Maddie Newell** 2:20:19  
Umm I my search was a little chaotic, which mostly that's what I use chat GBC for so it's so it's my first time having a conversation with it and but what I my my one question is I really like you know please explain the plot of of I I put A Clockwork Orange as if you were and then I put in like a character like Moyer rose from Schitt's Creek.  
She has a very distinct way of speaking and and it always comes out so funny and it's it's great, but I then kind of went down a rabbit hole of just thinking about like, like character copyright within AI.

 **Pat Lacey** 2:20:55  
Yes.

 **Maddie Newell** 2:21:13  
And like, I'm sure we're gonna get to it and everything, but it was just like one of those things that I hadn't really thought of before because it's like that character is copyrighted.

 **Pat Lacey** 2:21:16  
Oh yeah.

 **Maddie Newell** 2:21:24  
But it's like you're taking nuances of that character.  
That someone created.  
So yeah, I don't.  
I don't know if you wanted to speak on that a little bit, but I I mean I'm sure like the the ethics behind behind AI is insane.

 **Pat Lacey** 2:21:43  
Yeah, definitely.  
And from what I can kind of go, uh, speak on that without going into like a a full 2030 minute rant on AI ethics, something that is.  
I've noticed in a lot of lawsuits regarding copyright is that there's a lot of copyright built on the exact piece of art, whether that is the show or the song.  
I know a lot of music kind of examples, so I'll kind of heavily rely on that.  
Where you can't use like the actual song in you know your content, it has to be done within like fair use policies to get to mitigate any copyright issues.  
But a thing that a lot of people have discussed.  
Ohh and kind of from my understanding where these copyright laws kind of fall into kind of conversation is where these like, yeah, what you were talking about these character subtrades or traits of the character inside the show.  
How that would be possibly copyrightable, and also it it is a big question of whether you know imitating a character on a TV show is a violation of copyright.  
Maybe when training a model on data from that show so that it can mimic the character and its characteristics, the training of using that copyrighted data might be something that we expand on within the definition of copyright.  
But as of now, the.  
Using it in a formative process which is training a model and creating this next word Prediction Series, where it it truly isn't just regurgitating it will regurgitate if you ask for like the lyrics of a Taylor Swift song, which I've seen in other copyright lawsuits or things of that nature.  
But you know, also supplying data like lyrics to a a song isn't umm is something that is common.  
There's many websites that provide that and they don't need to worry about licensing within just lyrics alone, so there's a lot of just kind of intricacies within AI copyright, and I'm sure we'll see a whole lot of kind of determining, you know, lawsuits.

 **Kevin Weiler** 2:24:42  
We Reese Witherspoon is now.

 **Pat Lacey** 2:24:57  
Uh, that create these kind of precedents? Where?  
AI will either have access to copyrighted information and be able to transform into the like in generate information based on that, or whether that will be kind of look down upon limited and what that would actually also do as impact to these models.  
Like there's a lot of copyrighted information that is used.  
You know, a lot of ways and.  
That will also just slow down the process of developing these models.  
So Kevin, seems you you have a question or something to add here.

 **Kevin Weiler** 2:25:44  
Yeah, just.  
It's not just the characters, but people's voices and other characteristics.  
Reese Witherspoon just filed a suit.

 **Pat Lacey** 2:25:51  
Again, Kevin, sorry to interject.  
Yeah.  
Could you just?

 **Kevin Weiler** 2:25:55  
I was just better.

 **Pat Lacey** 2:25:55  
Yeah. Perfect.

 **Kevin Weiler** 2:25:55  
Sorry, sorry about that.

 **Pat Lacey** 2:25:56  
Yes.

 **Kevin Weiler** 2:25:57  
I I I needed a microphone.

 **Pat Lacey** 2:25:57  
No, it really helps.  
All good, no worries.

 **Kevin Weiler** 2:25:59  
Umm. Ohh.  
Reese Witherspoon did it.  
Just filed a suit.  
I think it was against Google cause what they approached her to use her voice for one of their one of their AI products and and she said, you know, no thank you and ended up publishing the product anyway with the voice that sounds exactly like like her voice.  
And so now she's entered into a lawsuit.  
So it's it's not a, you know, a character or a derived work or a characteristic of of of a particular character.  
It's a.  
It's a characteristic of her.  
It's her voice.  
Right.  
And and and so now she's.

 **Pat Lacey** 2:26:31  
Very true.

 **Kevin Weiler** 2:26:33  
She's gonna try and sue the bejesus out of him for using her voice without her, without her consent.  
So those are the kinds of, you know, issues that this thing is is gonna start raising.

 **Pat Lacey** 2:26:46  
Yes, very true.  
There's also another one, another lawsuit with Scarlett Johansson and open AI.  
So very much the same type of thing.  
Characteristics of voice is something that you can't truly copyright on like.  
I mean, I'm sure they'll make a a very good argument for that.  
But there is a lot of stuff to worry about being copyrighted, and there is a lot of stuff to worry about.  
Umm, when just presenting lawsuits and being able to present evidence to, you know, settle, claim and get a a big bag of money, which is always, you know, ideal.  
Umm, so there is kind of this Moto multi angle approach where we want to be ethical, but we also want to make decisions that can be abused, you know, make decisions that we can have like you know similar characteristics of voice cause personally there is a lot of characteristics and voicing and stuff like that.  
But it's really hard to you know, attribute that to somebody specific.  
And so that this again, yeah, like what you mentioned this will all kind of hopefully get a you know ironed out what what topics, what characteristics and what data will be determined, copyrightable and not allowed to be trained on by AI models without specific licenses.  
What I really think is a big step forward in the AI copyright world and discussion is figuring out the proper licensing for these artists, whether that is a vocal actor or a character on a TV show or a music artist.  
What license they can kind of have to give out to a AI company so that they the AI company, can, you know, properly.  
Compensate the artist and use their data in their product.  
So there's a lot of different licensing, there's licensing for code to be used in applications on like GitHub.  
Umm so and there's plenty of different licensing with different like factors and different.  
You know specific details, so I'm sure there's going to be like a lot of different licensing kind of scenarios that appear and come up within the AI copy right world.  
So that that is a great conversation to be have had.  
And I think that will be something that we can keep on discussing further on in this course.  
We'll obviously get to it in the ethics, but umm yeah, it's a great thing to just kind of keep in mind and have a conversation of while we're learning more and more about these these models than using them.  
So great.  
Does anybody have any other comments?  
Uh, we're near and close to the end of class, but I think if anybody wants to kind of, you know, show their conversation, touch on any of the other people who have shown theirs, would love to hear some feedback or some opinions on their experience.  
Daniel, hi. Yes.

 **Daniel Durango** 2:30:51  
Yeah.  
I I just have a comment on what Farley said about the memorization.  
I I was going through that issue.  
And when I worked at the the web content creator job, my boss actually showed me a a method to solve that.  
So what we did was we had to create a new chat and then just tell the rules like we we built like a a template.  
Follow these bullet points.  
You know, please, every time that I give you something, spit this out and then it it would, it would remember for the most part, it did have some some mess ups or like it would like miss one section of the bullet points that we said.  
But for the most part, if you say I want you to write, you know, a description, that's uh, you know, the three paragraphs, 2 paragraphs and one paragraph like that, and then you tell and then you tell them the information it'll it'll do it, you know.  
But I guess you just have to start that in the beginning because that's like the how it lays out the entire.  
Chat and then if if you wanna build another template or frame use how to create another chat you know because then you it'll you can't make a lot of rules into one because then it'll it'll be confused and then it it like overlaps.  
There's a lot of overlapping or just if forgets everything that you said, so that's something that I've used in my AI adventure for sure.

 **Farley Toussaint** 2:32:13  
So.  
So you say I break it down into parts instead of doing everything all at once.

 **Daniel Durango** 2:32:18  
Bring it down to parts and tell it what to do in the very beginning.

 **Farley Toussaint** 2:32:21  
Umm, OK, that makes sense.

 **Daniel Durango** 2:32:23  
Mm-hmm. Yeah.

 **Farley Toussaint** 2:32:25  
That makes sense.  
Thank you for that.

 **Daniel Durango** 2:32:28  
But I'm not an expert, I'm that's why I'm taking this class. Yeah.

 **Farley Toussaint** 2:32:28  
But.  
No, I'm not either.  
I'm not either.  
It's just ohm.  
What's a lot of techniques and I I've deep dives into it.

 **Daniel Durango** 2:32:37  
Try it out.

 **Farley Toussaint** 2:32:39  
I've deep dived into it a few times, so it's like it does get overwhelming though, like I I'm not gonna lie, it just gets old.

 **Daniel Durango** 2:32:44  
Umm, have you been doing more than me though for sure.

 **Farley Toussaint** 2:32:48  
Ohh no, I don't wanna go.

 **Daniel Durango** 2:32:49  
Yeah.

 **Farley Toussaint** 2:32:51  
Like, listen.  
No, I'm not even gonna say no.  
I plead the 5th.

 **Joseph Vinisky** 2:32:55  
I think.

 **Pat Lacey** 2:32:57  
Yeah, it's it's not a competition, but it definitely with the membership you seem to have a lot of access to some tool, really cool tools and it's really exciting to see the experience that you have with it kind of.  
Piggybacking on Daniel's topic, well, his mention of kind of a early preexisting comment that kind of instructs the model to act in a certain way or to focus on specific things that is referred to system messaging and we will get further.  
We will talk about that when we get closer to APIs next week.  
I believe we'll also cover prompt engineering, which is essentially what system messaging is, but that is a very helpful tool, a task to do, especially if you have a lot of the same tasks that you which is differing input data.  
You can kind of create a tab where you have this like task that you have that you want done in a specific way and you can kind of just say I'm going to input this thing.  
It's gonna be a variable.  
It's going to be kind of around this topic and I want you to, let's say, write a this A3 paragraph essay on whatever.  
And you know, you can even talk about what should be in each paragraph and you know, broad sense of things.  
And then the next, you know, prompt can be just a short little whatever variable you really wanted to talk about, and it will use that conversational history.  
And like you mentioned Daniel, this doesn't work outside of conversation.  
It won't transfer from conversation to conversation, which is each conversational tab that you see on the left side of chapt.  
Umm these system messages won't really transfer.  
Which is something to keep in mind and also I forgot to mention this when Farley you brought it up.  
Where dollar E creates kind of its own independent generation.  
When you, you know, ask it prompted again as like a revisionary prompt.  
I'm unfortunately with Dolly, at least.  
At least it seems through chat sheet PT's accessibility that that isn't there isn't a functionality of available to kind of like regenerate on the same image, but there are some image generation platforms that use AI that where you can input the image that you want revised essentially and sometimes even like you can kind of mark things in the image to be like.  
I don't like this.  
Can you move it somewhere else in the image or something like that where it will take that inputted image with the revision and make A at least a a better representation of that image better closely represented of that image inputted image?  
Then just like an actual regeneration of whatever the prompt was, which is kind of where.  
It seemed Dolly was working with uh in Houston.

 **Kevin Weiler** 2:36:57  
Shop does that too.

 **Pat Lacey** 2:36:59  
What was that? Sorry.

 **Kevin Weiler** 2:37:00  
The Photoshop so the the image editing software.

 **Pat Lacey** 2:37:02  
Yes.

 **Kevin Weiler** 2:37:03  
It's like it.  
It has an image.  
It has a AI driven image modification and prefill so you can highlight a section of the image and say replace that and it'll it'll regenerate.  
You know that that portion of the image, so it's it's mixing a real photographic image with some AI thing too, you know, fill in some hole or fill in some dark space in your image.  
Or if you if the image is out of frame and you like, cut off somebody's arm and the image and slide the image to the left, you can say use intelligent prefill and it'll like draw that person's arm and everything that was behind it.  
You can't tell.  
It can't tell the difference from the from that and the real thing, it's crazy.

 **Pat Lacey** 2:37:42  
Definitely. Yeah.  
No, that's something that has really surprised me and something that I really appreciate being on the outside of Photoshop.  
I have tried Photoshop a lot of times.  
I've never been good at it.  
Probably could do the basic stuff, but from my understanding earlier there was a system called like genitive generative Fill, which wasn't always the best.  
There was actually a lot of like kind of the image.  
Umm.  
Editing that was needed for a lot of these visual graphic designers.  
Or, uh, whatever position that deals with the Photoshop is a kind of creating the problem.  
Solving those like issues with generative fill or how to make them like these tasks that AI has been able to kind of do seamlessly.  
That was a big thing that Ohh was kind of a a drawback to a for a lot of graphic designers was like how to make these edits the best uh, you know, the most the clearest for a human to perceive and not think.  
Ohh somebody did some editing here which I think is very important and something that yeah, I've really appreciated especially being on the outside of Photoshop.  
So great point there. Umm.  
Yeah.  
Does anybody have any other feedback before we kind of shift topics here?

 **Joseph Vinisky** 2:39:34  
I was gonna say that, uh, I did some work for outlier dot AI and and remote ask early in the year and dog gone back to Daniel's point where you know, how do you how do you make the system remember or recall what's been fed into it?  
So Wawa is, is my web probably not the best way.  
You create a file that you can actually, you know, file of rules.  
You can actually upload.  
Uh, you you couldn't do it with 3.5.  
You, you, you.  
You can't with four.  
Oh, and this 44 Omni, so you can it will actually reference that, you know set of rules and not just that, uh, let's say it spits out five pages worth of, you know, information you really only need about a paragraph or two.

 **Pat Lacey** 2:40:09  
Yep.

 **Joseph Vinisky** 2:40:22  
You could tell it to kind of like, you know, dumb it down or or or synapses, or summarize enough it will unleash like an avalanche of stuff, which you don't necessarily need that much info, but you can ask it nicely to kind of like, summarize it up in 10 sentences and stuff.

 **Pat Lacey** 2:40:22  
Umm.

 **Joseph Vinisky** 2:40:41  
So it's pretty.  
Realistic in terms of understanding, you know, normal human input.  
So that's that's one way of like managing these uh responses that would say.

 **Pat Lacey** 2:40:56  
Awesome.  
Yeah, that's a great point.  
Another kind of form of the system messaging, which we'll talk about a lot.  
Yeah, with the GPT 4 you can add in files, so it's nice to kind of have like the file of rules kind of keeping your on your computer, not so much.  
Rely on the actual platform that you're working on.  
That's always great and.  
Yeah.  
A big thing is the length of generation.  
That is always something that I've noticed to be kind of annoying is that it over generates, in my opinion.  
At points there was.  
Sometimes I get some good insight, a lot of the times.  
I just wish it would give me a simple, concise answer of maybe a paragraph or two.  
I am not a huge reader, and ultimately you know that is but ideal state of things is where we want all the concise information dumb down into A at least the most appropriate length.  
Umm.  
Which we will be able to also kind of not access but be able to determine the length structure of the generation using API and that is something that is very helpful and interesting when we get there.  
So that is something that I also find to be very helpful when putting in prompts is I always like to say, you know, please make it short or maybe a paragraph or two long or something like that, just to make sure that the model doesn't generate this page of stuff that just kind of, you know, puts me back at square one.  
I have a lot of information that I can read on Google that is definitely like at least verified or from it's someone of some sort of.  
Well, something that I can actually critically analyze the source.  
Umm.  
And if I'm gonna do a lot of reading, why not do reading on Google, then chat GPT?  
At least in my opinion, so that is a great point.  
Uh generation length is something to always think about.  
All right, so it is 8:35.  
We are wrapping the end of the class here and what I'm going to do I'm going to share my screen and we are going to take a look at nice little take home exercise that will have everybody do we can actually.  
Kind of do a little work time while we're still hearing class on it and it shouldn't be too hard.  
It's just the introductory class anyways, so here I instructed you earlier to have a conversation with just chat CPT.  
This time I want you guys to, you know, play with two different models.  
See what chat GPT answers differently than Google Gemini?  
Google Gemini is another large language model.  
It's created by Google obviously, and it is personally one of my favorite models.  
I've I like Chachi PT too, but there are some things with Gemini that are very helpful in my opinion and.  
Here are a few things that you should kind of think about when talking of like you know, analyzing your conversations which have GPT and Google, Gemini, uh, try asking the model the same question multiple times.  
Umm, this is kind of to reinforce, uh, just asking a singular model a question the same question multiple times.  
You will get a different.  
You'll get the same type of information in your answer, but you'll get it presented in a lot of different ways, because again, these models are next word prediction, so it will have the same understanding and the same kind of content sometimes, maybe even the content will switch up between I'm asking, but overall I'm kind of seeing the difference in responses on the same question gives you a better understanding of what these models actually are doing?  
Like.  
Asked the model the same question to both models.  
See what the different types of generation styles are.  
I like Google Gemini cause it does a little bit more focused on bullet points and kind of easier reading solution, but that's up to everybody's experience.  
So I would definitely say try some different questions with each model and see which kind of style you like. More.  
Umm.  
Try asking the model broad question and the detailed question, especially it's very helpful if you direct it in some sort of topic that you are interested in.  
Something that I've been realizing.  
Is it knows about a audio programming development, which is something that I am very interested in.  
It knows about these.  
Frameworks and libraries that I always am looking at the documentation for, but when I get into specific uh projects that are kind of pushing the line of creativity or research, you know, then the model has a hard time because it truly again is a reflection of its data that it was trained on.  
So if something hasn't been discovered, or if something hasn't been, at least.  
Documented well, it might have.  
It might struggle to answer a question, at least in the full clarity with the full precision that it would with a a broader question.  
And then are there any noticeable differences between the responses?  
Something to always think about.  
Umm.  
Also I wanna kind of add in here umm.  
What?  
Uh resources or what?  
Kind of like extra additions on chat, GPT and Google Gemini.  
Do you?  
Do you see in can interact with stuff like Dolly?  
As well as uh, you can add in the the files now through chat.  
GPT.  
That is something that is kind of tacked on as a a functionality to the transformer model that isn't.  
Essentially, like its foundation, which is really cool because chat GPT has a bunch of accessibility within different functionality and it differs from Geminis accessibility, something that I think is going to be very interesting is Google's AI models are going to kind of be able to.  
Uh.  
Interweave itself through all these different applications that Google owns.  
This workspace of Google Drive, Google Calendar, Google.  
I don't know Google Photos or something like that, being able to.  
In integrate an AI model into your product is kind of the the name of the game right now in Googles product is so expand like so expansive and heavily used already that the way they can integrate an AI model to you know take something from your Google Drive and create a whole new like spreadsheet for it or you know take all the receipts that are in your drive and create a spreadsheet using all the information that is found on there.  
It's gonna be something that we will see in the future and there's a lot of accessibility already in Google Gemini.  
I believe it.  
Uh has some access to maps in YouTube, at least right now, which is pretty cool.  
I would definitely say look into that.  
Umm, when playing around with that, so we have only a few minutes, so I'm not going to have anymore in class work time on this.  
This is going to be something that we're gonna focus on outside of class, and we're gonna talk a little bit about before our next class on Thursday, but yeah.  
If anybody has any questions about the class in general or just kind of the exercise or anything that we've covered today.  
I'll leave her a few minutes before the end of class just for that.

 **Kevin Weiler** 2:51:24  
I'm still having an issue logging in, but we can we can take that offline so I I got the I got the I got the credentials but I don't apparent.

 **Pat Lacey** 2:51:29  
Yes.

 **Kevin Weiler** 2:51:32  
I don't appear to be invited to the right team.

 **Pat Lacey** 2:51:36  
Interesting.  
OK.  
If you could stay on with me just a few minutes after this call, it will be pretty quick.

 **Kevin Weiler** 2:51:41  
OK, sure. Certainly.

 **Pat Lacey** 2:51:45  
Just so I know, the next steps to help you out and Kennedy if you could stay on as well.  
I know you joined in late, so I just wanna make sure that we have you all set?  
Umm for next class as well?  
Does anybody else have any other questions before we kind of wrap up class for today?

 **Daniel Durango** 2:52:07  
But my last question is really quick.  
How are these?  
Uh models these chat bots free, you know?  
And I was thinking in the future I could see this being sponsored like Ohh, what's the best fast food restaurant?  
McDonald, obviously because of this, isn't this.

 **Pat Lacey** 2:52:21  
Yeah, that's a that's a big worry of mine as well.  
You know these companies especially like chat.  
GPT Open AI was built as a non for profit, umm, company, a company structure, but then ultimately throughout the years restructured into a parent company being a for profit company.  
Whole lot of business terms that I, I don't know too much about, but ultimately they you know the question of monetization of these services is the big question and what I would say for right now the subscription fees are what are keeping ohh and funding it is what's keeping a lot of these AI companies of folk float.

 **Daniel Durango** 2:53:08  
Yes.

 **Pat Lacey** 2:53:12  
Microsoft has, yeah, Microsoft is a huge, you know, funding resource for open AI.

 **Daniel Durango** 2:53:12  
Private equity? Umm.

 **Pat Lacey** 2:53:22  
Google.  
I mean, it's pretty much it's own funding source, but a lot of AI models have, umm, you know, the subscription services which are $20.00 a month.  
It seems like a lot of them are pretty much all around $20.00 a month, which I mean if you think about it, is almost $250 every year, which is a sizable amount, especially with keeping in mind the amount of users that are using AI.  
You know, we're having these intro classes to kind of get everybody ready for using even, uh, deeper and more technical AI models.  
But there is like almost like the, well, millions in almost billions I think now are using these AI models.  
So there's a lot within just kind of the the subscription models being monthly and the just volume of users.

 **Daniel Durango** 2:54:24  
Yes, for sure.  
I feel like we're also a funding source just by our behavior and what we're asking.  
And you know they're there.

 **Pat Lacey** 2:54:31  
Yes.

 **Daniel Durango** 2:54:31  
They're gonna make money from us.  
Obviously just from using it.  
OK, great.

 **Pat Lacey** 2:54:34  
Yeah, Chad, GPT, I'm sorry.

 **Kevin Weiler** 2:54:36  
Now, if you're not, if you're not paying for a product, you are the product, right?  
They're they're they're taking your data and they're selling it other places.

 **Daniel Durango** 2:54:40  
Yep.

 **Kevin Weiler** 2:54:44  
So you're a free source of revenue for them.

 **Daniel Durango** 2:54:44  
Ohh yeah.  
Umm.

 **Pat Lacey** 2:54:47  
Very true.  
Ohm. Yeah.  
Chat GPT has like a a service or actually a fun fact.  
So chat cheap PT is a application which is that Web browser.  
Conversational bot, but underlying that application is the actual AI model, which there's a lot of kind of just, you know, technology that is used to make the user experience the best.  
Umm so chat GPT trains on well, you know, a portion of all the back and forth that we have.  
We'll get into a lot of the privacy, especially within API usage.  
There they don't train on that stuff, which is nice.  
So there's kind of different aspects of where your data will be used for training and it usually is always used for training within the free services because they gotta, you know, leverage it to it wouldn't be free if it wasn't used for training.  
So great point there.

 **Daniel Durango** 2:55:55  
Umm.

 **Pat Lacey** 2:55:57  
We've ran a couple minutes over class time, so I'm going to wrap it up for today.  
I am so excited.  
I'm so happy that everybody is, you know.  
Out here and, you know, expressing their opinions and collaborating with class, it really helps the flow of class and really hopes me gauge the understanding and where everybody's at.  
So yeah, we're gonna have class on Thursday at 5:45.  
Same time, same place.  
Again, you can always reach me on email and phone.  
And yeah, we look forward to seeing you next class.

 **Daniel Durango** 2:56:40  
Goodnight, Pat. Thanks.

 **Pat Lacey** 2:56:42  
Night.  
Take care.

 **Kevin Weiler** 2:56:44  
Night, everybody.

 **sho ogata** 2:56:48  
Right.

 **Pat Lacey** 2:56:49  
Alright, Kennedy and Kevin, if you could just stay on if anybody else has any other questions that are staying on, feel free to ask away.  
Farley are? Yes.  
Yep.  
OK.  
And boom.  
OK, awesome.  
So Kevin, real quick, I'll deal with you and then we're gonna talk to Kennedy, but real quick.  
So you got.  
I sent you over an email with some login information you said.

 **Kevin Weiler** 2:57:26  
Yep.  
And I so I I put that into my my problem I think is I'm doing this on my work laptop.  
It's a Mac and and we used it and it saw I was already set up with the teams account, so I already had teams installed and signed on using all of my work ID's so so I think it's getting confused.

 **Pat Lacey** 2:57:34  
Yeah.

 **Kevin Weiler** 2:57:45  
Ohh you want me to sign on to to?  
You know Microsoft again, you know what? What?  
What are the?  
What are the credentials?  
What I'd really like to do is prevent having to switch back and forth because it's kind of a pain to switch back and forth from one set of credentials to the other.  
So I'm hoping that I can sort of keep it contained within Safari.  
I never use, you know, the Mac Safari browser, so I'm like, alright, I'll do everything in Safari and it'll everything will be stored in the cookies in the Safari browser and that'll that'll just be for class.  
So so I I got that up and I got that working.  
I got into the main Office 360 page, selected at.  
The email works to set myself a test email using Outlook.  
And then tried to get on to like the the the class teams team and and I and I was signed up for a different team.

 **Pat Lacey** 2:58:35  
Yep.

 **Kevin Weiler** 2:58:39  
There was some like introduction to computers class or something that team was available for me to join.

 **Pat Lacey** 2:58:43  
I mean.

 **Kevin Weiler** 2:58:45  
There was a public testing team available for me to join, but there's no team for the AI class available for me to join in.  
And you know, I need that to grab all the materials.

 **Pat Lacey** 2:58:57  
OK, I will look into that.  
And from my understanding, they will just invite you into that teams that well that team.  
It's always weird.  
Well, talking about teams as a program and team, but we will invite you into that class.

 **Kevin Weiler** 2:59:11  
Yep.

 **Pat Lacey** 2:59:16  
We'll make sure that you have all the access.  
I just need to reach out to a few people.  
Double check what the issue is.  
I will email you either confirming that I got it fixed or with next steps in the next day or two.  
So you will have a teams access for class on Thursday.  
Sounds good.

 **Kevin Weiler** 2:59:37  
Yeah, sounds good.  
Yeah.  
And and I guess just don't kill since right now y'all go.  
You were kind enough to send me a guest account.

 **Pat Lacey** 2:59:44  
Yes.

 **Kevin Weiler** 2:59:44  
That, that. That's.  
That's how I got on class today is I was using that guest account.  
So let's not get rid of that until we're sure that this other ID works.

 **Pat Lacey** 2:59:53  
Ohh no.

 **Kevin Weiler** 2:59:55  
Make sure I can come online for the next course.

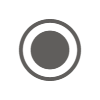
 **Pat Lacey** 2:59:58  
Yeah, this link actually for both of you.  
This is very helpful this link because Kennedy you are also using guest access.  
The link that I sent you in the email.  
I will always bring you to this class link, so if you're having any issues with the Microsoft Teams at all, just revert back to this enter in class as a guest and I know that you won't be able to access a few things like the seeing the screen sharing or I don't know if you guys can even deal with the the chat.  
Do you guys see chat at all?

 **Kevin Weiler** 3:00:35  
No, I I I saw that.  
I I did see the screen sharing.  
Luckily, we were able to follow the slides, but I I I I I could not get into the into the chat, nor could I, you know, get get into the teams for the like the attachments like your your slides and and the handouts for the assignments and stuff.

 **Pat Lacey** 3:00:40  
Ohh, amazing.  
Yeah.

 **Kevin Weiler** 3:00:55  
I can't get it that, but yeah, we're seeing the screen share just fine.  
I don't know Kennedy or probably in the same boat.

 **Pat Lacey** 3:01:02  
Yeah.

 **Pat Lacey** stopped transcription