Throughline:

Current updated throughline: **Meaning survives when we create with intention.**

The Big Idea:

Peanut butter

Talk about giving purpose as a parallel line to having intention with giving intention

Evidence:

For each proof point, write 6 beats (bullet points, not prose):

1. Image / moment (what the audience sees)
    a. What is the single, vivid thing happening on stage/on screen?
    b. What detail makes it feel alive or strange?
2. Human reaction (evidence meaning is forming)
    a. What did people *do* immediately? (laugh, “aww,” gasp, cry, clap, name it, post it, write to it)
    b. What’s the one reaction you’ll describe or quote?
3. Mechanism (why that reaction happened)
    a. What trigger created the reaction?
    b. What is the simplest way to say this out loud?
4. Human reflection (what it reveals about us)
    a. What human need/value is being exposed? (connection, care, control, hope, grief, pride, responsibility, loneliness)
    b. Would this feel different if it were a human? If yes, what changes? If no, what does that imply about us?
5. Intention lever (how meaning can be built on purpose)
    a. What did someone intentionally design/choose that amplified meaning?
    b. If it was unintentional, what *could* we choose next time to shape meaning deliberately?
    c. Tie to your throughline: “Meaning survives when we build with intention…”
6. Bridge line (how it advances your argument)
    a. One sentence that locks the beat into the throughline *and* tees up the next example.

Corndog:

1. The audience sees Corndog interacting with them, a handshake or rollover or other action, most likely at least one that is on the screen behind me in addition to him

performing it (thinking lead-in with handshake in person and behind me, and then another action behind me, keep him on my shoulder)
2. They react with aww, possibly also recount the story of the BTUlab where he glitched out and someone responded from across the room
3. gesture/action which lead to social instinct
4. The need for connection. It wouldn't feel any different if it were a real dog and teaching/showing off tricks.
5. My intention for Corndog was to create a buddy/companion to stick with me and to just see if he could work.
6. So if meaning can appear in a single gesture, what happens after 20 years of work?

Cassini:

1. The death of Cassini as it burned in Saturn's atmosphere
2. Crying and sadness. People immediately cried and "sent" letters in memorial of their lost friend and colleague. Julie webster, spacecraft office manager, went one to say "I no longer have a space craft that will keep me up at night; after a few days I think I'll really miss that"
3. Long term investment
4. Connection, care, grief
5. The intention was to forward science and the pursuit of knowledge. It was a byproduct that people became attached to it.
6. If we can have subconscious feelings about a probe, what about a robot programmed to emulate emotions?

Can't help myself:

1. The arm trying to pool the "life giving" liquid back into itself. It feels alive because it has to keep doing something to stay running, mirroring human activities like eating or working.
2. Disgust initially, then sadness/empathy as they view it as themselves or some creature, tired, unmotivated, stuck in an endless loop where nothing changes. Also constant suffering, something like a sisyphean task.
3. Social and failure cues. The reaction probably happened because humans evolved to recognize distress and have empathy. This results in both feeling sorry for the machine as well as relating to it.
4. Connection, care, responsibility. This would feel exactly the same (hopefully) if a human was in the same position, as many might be.
5. There are two design elements that maximized meaning, 1. The red cellulose liquid, which is analogous to blood and treated as needed to live. 2. The added dances give some extra meaning to the core point of the robot of people being stuck in an endless loop, feeling like nothing will ever change unless everything runs out.
6. Seeing the endless loop a one of a kind robot was built to do results in our sympathy for it, but what about working robots that are inside millions of homes?

Robotic vacuum (Roombas):

1. Theres no single moment where they feel alive, although I will try to display a photo of someone (probably my dad) holding our roomba in the air, mirroring our cat. Makes it feel as if it has a soul by being a pet/part of the family.
2. Possibly go aww or laugh, but overall people name, cradle, and welcome the roombas into their family. I will also mention how there are a couple of options for fixing their roombas when it breaks. The first two important options are 1. They can send it in and get it repaired and sent back to them, instead of getting a replacement unit (though the option is available. Speaks to the bonds that they can make. People can also fix them at home, with parts ordered online, because sending something amounting to a pet in the mail for possibly weeks can be scary.
3. What most likely triggered this reaction is two part. 1. People want companionship/company and so if something nearby exists that they can bond to (say a robotic vacuum cleaner), the most likely inevitably will, and if they can bond to it, then it has a soul. 2. The little imperfections or training that has to be done. The inability to see at the same quality as humans, or bump into things without quite understanding what they bump into. These little things they do give them their souls, a clumsy one, but a soul nonetheless.
4. Humans need connection and will give it, only if the thing in question has the qualities needed (a soul).
5. Most companies designed the robots to have a gigantic button in the front, in order to maximize its ability to bump into things.
6. Something about comparing robots that are subconsciously realized to have a soul to something that humans spent time and a lot of deliberation on making sure it perfectly encapsulates us.

Voyager:

1. The golden record. The detail that makes it feel alive is the time and effort that went into choosing all of the things to then go onto the record
2. Similar to Cassini, there was the staff that put their hard work into it, but I think its a more recognizable moment when you could just go out and talk to someone and see how hopeful they were with voyager.
3. Legacy encoding. People were happy to send someone off that is the best of them, their first extra solar visitor, and they wanted to make sure it had a soul like them.
4. Care, hope, loneliness
5. The different media chosen to be on the golden record, the name voyager, and the fact they went so far as to figure out how to reconfigure the memory from billions of miles away, just to make sure their robot stays kicking.
6. Something about putting work into the things that will last the longest, and segway into the so what part about imbuing your soul into things you make which will outlast and outgrow yourself.

Order:

(Italicized is stuff that I'm more comfortable being cut to make time if necessary) This is now out of date, treat the stuff at the bottom more prevalent as I rework this.

1. Hook: Lead with **Corndog** giving a wave (other action if a good idea comes up) and possible give some background to who I am
2. Circle back to Corndog and talk about **reactions** to different events, hopefully using their exclamation of Aww to my benefit. Also talk about his glitch/wiring fail and labmates reaction to it
3. Circle around **Cassini** and how NASA's officials had deeply emotional reactions to the death of something they held so close.
4. *(currently out) Move to talking about **Ingenuity** while on topic of NASA probes/rovers. Mainly how it kept going for dozens of missions (72) more than it was planned for (5-6), effectively changing from a tech demo to the little helicopter that could. People also mourned it like a scout who never came home*
5. Last NASA point by talking about **Voyager** being one of the first things other life might find that is reminiscent of us (golden record)
6. (would like to have, but out for now) Talk about how NASA taught their robots a lot of different **non-necessary skills** and how that's not necessary but it gives a soul still
7. *Segue to **Can't Help Myself**. Talk about the emotions built into it, and how we can empathize with it when we see it try hard but still fail to bring the oil back into itself*
8. (not in, want to use) Using NASA names and Can't Help Myself, **talk about names** and how in old stories (like the Fae) knowing someone's name gives power, and how in the modern day when we name something we are acknowledging how it's becoming a part of our lives and that's how we give a soul to it.
9. *(out) Talking about **dreaming** (reinforcement learning). Mainly about how in some cultures dreaming is considered a window into the soul, and robots also dream, trying to teach themselves how to do stuff while lying still and effectively sleeping.*
10. (completely out) Major shift into talking about how we are approaching a moment in time where **people will be intertwined with robots**, and we won't be able to go back from it.
11. Talk about how **roombas** in peoples homes are already becoming pet like
12. Finalize talking about how robots or better or worse may outlive us, but **they will be ones to tell others what we were like. So make something that will outlast you.**

Aim for 1800-2250 words total.
For now this is the fast and loose guide:
Intro / setup (10%): **225** words (~1:30)
Evidence 1–5 total (65%): 1,462 words (~9:45)
Each evidence piece (***5**): ~**292** words (~1:57 each)
Conclusion (25%): **563** words (~3:45)

Orange highlight is old version,
Blue is corndog movement,
Purple is talking to corndog instead of audience

Several months ago I was doomscrolling on my phone. Then I stumbled onto a post about different space probes and how James Webb was the big new popular satellite, and how it's getting all the attention. And then a single line caught my eye: "**Our robots know so much love and gratitude and they'll never know loneliness**". Now most people probably would've just kept on going without thinking much of it. But then I started taking Corndog, my robot dog I built, with me to different places and to meet different people and I noticed something. When he says hello, people will say hello back. If he tripped and fell, people would immediately volunteer to help him back onto his feet. These interactions weren't abiding by the common consensus that robots are cold calculating machines. People were happy for the tricks he could do, and the effort he put into walking around and felt sorry for him when he broke or ran out of battery. I was even becoming proud of the little guy, almost as if I was seeing a soul be created inside of him, through everyone's interactions, mine included. Now by soul I mean: The quality of a physical entity that makes it unique and not interchangeable. This is why I suspect we cheer when a rover completes its mission, but not when an axe fells a tree. We empathize with these robots because they have a soul.

Several months ago I was doomscrolling on my phone. Then I stumbled onto a post about different space probes and how James Webb was the big new popular satellite, and how it's getting all the attention. And then a single line caught my eye: "**Our robots know so much love and gratitude and they'll never know loneliness**". Now most people probably would've just kept on going without thinking much of it. But then I started taking Corndog, my robot dog I built, with me to different places and to meet different people and I noticed something. When he says hello (say hi buddy), people will say hello back (gesture and wait for people to say it back). If he tripped and fell, people would immediately volunteer to help him back onto his feet. These interactions weren't abiding by the common consensus that robots are cold calculating machines. People were happy for the tricks he could do, and the effort he put into walking around and felt sorry for him when he broke or ran out of battery. I was even becoming proud of the little guy (have him do a smug dance), almost as if I was seeing a soul be created inside of him, through everyone's interactions, mine included. Now by soul I mean: The quality of a physical entity that makes it unique and not reproducible. So I don't mean anything like generative AI or Large language models. They aren't physical entities, and they can be reproduced exactly the same every time. So instead I'm going to show you how our intention imbues a soul into these machines. There's a space probe that caused grief to be felt over hundreds of millions of miles away. An artistic piece that embodies the ugly side of humans. Robotics cleaners that people welcomed into their families. And a gold disc we imbued with everything that makes us who we are, and then threw as far into the night sky as possible. These are just a few reasons why I suspect we cheer when a rover completes its mission, but not when an axe fells a tree. Because we have imbued our intentions into robots to give them a soul.

I want to go back to Corndog. He has been my pet project for around 2 years now, and boy has he changed. But I'm going to let you in on a little secret. When I first started building him, I didn't really have any goals. I mean I wanted him to work and be interesting, but I only

decided to make him because college didn't let me have a drone. He didn't have any intention to guide his creation. But then I made it to school and everyone started asking me about him. "Why did you make him? What was your inspiration? What do you want to get out of him?" and all I could answer was an unsatisfying "I don't know". And I didn't like that. So I decided to use him to help others. Not in a way where he runs into a burning building, but instead as a tool to teach people one way to do STEM. And everything started snowballing from there. Not only did he start to work properly, but people started to care for him. At one point he had an electrical problem that caused him to start spasming, and someone from across the lab yelled out "Aww Corndog!" as it looked like he was in pain. Later on I was exhibiting at open sauce, a maker event, and without fail every time someone saw Corndog give a little wave or dance they too couldn't stop from responding with some primal human emotion. I suspect the soul in Corndog is causing these reactions. It happened to you as well. Right at the beginning of this talk when Corndog said hello, you said hello back. These reactions are just one piece of proof that robots have souls

I want to go back to Corndog. He has been my pet project for around 2 years now, and boy has he changed. But I'm going to let you in on a little secret. When I first started building him, I didn't really have any goals. I mean I wanted him to work and be interesting, but I only decided to make him because college didn't let me have a drone. He didn't have any intention to guide his creation. But then I made it to school and everyone started asking me about him. "Why did you make him? What was your inspiration? What do you want to get out of him?" and all I could answer was an unsatisfying "I don't know". I didn't like that, (Goes full limp mode, paws go out in front, and droops) and it looks like he didn't either . So I decided to use him to help others. Not in a way where he runs into a burning building, but instead as a tool to teach people one way to do STEM. And everything started snowballing from there. Not only did he start to work properly, but people started to care for him. At one point he had an electrical problem that caused him to start spasming, (He starts making weirdly cursed poses, though nothing dangerous) and someone from across the lab yelled out "Aww Corndog!" as it looked like he was in pain, Cause yeah, that doesn't look comfortable right now. Later on I was exhibiting at open sauce, a maker event, and without fail every time someone saw Corndog give a little wave or dance they too couldn't stop from responding with some primal human emotion. I suspect the soul in Corndog is causing these reactions. It happened to you as well. Right at the beginning of this talk when Corndog said hello, you said hello back. These reactions are just one piece of proof that robots have souls

But now I'm going to zoom out. Nearly a billion miles out, to the orbit of Saturn. Back in 1997, NASA sent out the Cassini-Huygens space probe to study Saturn and its natural satellites, like its moons and rings. Originally it was supposed to take almost 7 years to get to Saturn and then another 3 years to complete its mission. But instead, its mission duration was a month shy of 20 years. In addition to taking some beautiful pictures of Jupiter on its way to Saturn, its mission was officially to just study Saturn and its system with some very precise instruments. Some of the results were surprising, most specifically about the moons, like Enceladus, with an ocean of salty water under its ice, and Titan, with lakes of liquid methane on

its surface, causing a huge realization that there may be life out in the far reaches of the solar system. However all things must come to an end, and so the NASA officials who were responsible for Cassini made the decision to have her crash into Saturn and to let the probe lay forever with her planet. As she was flung into the atmosphere, she sent important reports and data for as long as her thrusters could keep her pointing home. Despite this, the scientists wouldn't be paying attention for a while. Instead they were crying and grieving for their loss. Julie Webster, spacecraft office manager, went on to say "I no longer have a spacecraft that will keep me up at night; after a few days I think I'll really miss that". These people didn't have a need to empathize with their robot, but they did anyway. They became connected in only a way that you would with the favorite office coworker, and they shed the same tears when she left. This level of connection is only possible if Cassini had a soul.

But now I'm going to zoom out. Nearly a billion miles out, to the orbit of Saturn. Back in 1997, NASA sent out the Cassini-Huygens space probe to study Saturn and its natural satellites, like its moons and rings. Originally it was supposed to take almost 10 years to complete its mission. But instead, its mission duration was a month shy of 20 years. Imagine having a child right when you start working on this grand project. For the first few years, everything seems like it's on schedule, after there isn't really a guide for this. Maybe there's a little bit of a scare when they get lost one day. But y'all keep on going. You are filling them with all of this purpose and intention, hoping that when push comes to shove, they can do what they are made for. And before you know it, you have to make a choice about letting them go, after all, everything must come to an end. Depending on who you were thinking of, either your child is now going off to college, or Cassini is reaching the end of its life. Parents will try very hard to convince their child to stay around and or even just visit. Cassini's adoptive parents weren't any different. In fact they had 9 different ideas for how to keep the probe alive for as long as possible. But in the end, they made the heavy decision to let her lay forever with her planet. As she was flung into the atmosphere, she sent important reports and data for as long as her thrusters could keep her pointing home. Understandably the scientists were crying and grieving for their loss. Julie Webster, spacecraft office manager, went on to say "I no longer have a spacecraft that will keep me up at night; after a few days I think I'll really miss that". These people didn't have a need to empathize with their robot, but they did anyway. There may be a line for robots having souls, but it was too blurry with tears to figure out when they crossed it.

Have corndog go into fetal mode when I start talking about having a child and hold him like a baby.
Instead they were grieving and crying - Corndog goes into a similar limp mode, but instead his paws go to the side and I call out that hes gotten really sad, and so then goes to sit on my should to make him feel better?

Now instead of a precise piece of equipment leading scientific discovery, I want to focus on an art exhibit instead, Can't Help Myself. Can't Help Myself is an exhibit made by Sun Yuan and Peng Yu which you might've seen bouncing around on social media. In case you haven't, it is an industrial robotic arm that does one main thing. It scoops a deep red liquid on the floor back to its center to keep itself running. It keeps moving in this sisyphean loop, where it scoops

the liquid back, turns to go to another spot, scoops more liquid in from the new spot, and just never stops until it runs out of liquid. However sometimes, if the liquid is contained just enough, it'll choose a random preprogrammed emote to do, before quickly returning to keeping itself alive. Just to be clear as well, it's not literally powered by the red liquid, it does run on electricity. But as many of you are already doing, people really seem to empathize with this robot. Between comparisons of addiction, to working day after day for no real end, Can't help myself embodies a lot of the worries and fears that people of our day and age have. Strangest of all however, is that people feel sorry for the machine. It's not like it has any real way of showing that it's in pain or wants to stop. Instead we compare it to a human in the same position, wanting to help stop it from working an endless job with no reward. We want to save its soul from a meaningless life.

However there is one robot where the line between being alive and being a machine is purposely made blurry: Can't Help Myself. Can't Help Myself is an exhibit made by Sun Yuan and Peng Yu which you might've seen bouncing around on social media. In case you haven't, it is an industrial robotic arm that does one main thing. It scoops a deep red liquid on the floor back to its center to keep itself running. It keeps moving in this sisyphean loop, where it scoops the liquid back, turns to go to another spot, scoops more liquid in from the new spot, and just never stops. However sometimes, if the liquid is contained just enough, it'll choose a random preprogrammed emote to do, before quickly returning to keeping itself alive. One of these emotes, which corndog has volunteered to do is simply, raising your hand, just as if you were in a classroom to ask a question.. Just to be clear as well, it's not literally powered by the red liquid, it does run on electricity. But as many of you are already doing, people really seem to empathize with this robot. Between comparisons of addiction, to working day after day for no real end, Can't help myself embodies a lot of the worries and fears that people of our day and age have. Strangest of all however, is that people feel sorry for the machine. It's not like it has any real way of showing that it's in pain or wants to stop. Instead we compare it to a human in the same position, wanting to help stop it from working an endless job with no reward. We want to save its soul from a meaningless life.

The creator's intention for creating this art piece was what could replace our will in making a work of art. They tried to make something that relies on intention to tell its story.

It scoops a deep red liquid on the floor back to its center to keep itself running - Corndog then performs the same motion either sitting down or on my shoulder.

For the random preprogrammed emote, Corndog will perform the same motion? Like sewing machine but instead call it typing?

But now I want to ask a simple question. Have you ever cared for a foster pet, and did you name it. I ask this because as the joke goes, if you have a foster pet and name it, it's not up for adoption anymore, you just adopted it. So what about if you invite an automatic robot vacuum into your home? Not only do people name them, but they make them into family members. Some will reward them by dropping food for them to clean up, get annoyed at it like a

child when it tries to go outside, and even hold it above their head to show their love for it. However my favorite way that people show their love is the repair options from a manufacturer Roomba. As you would expect, you can send it to them and get a replacement unit, or even fix it yourself at home with the appropriate parts, but the most interesting option is to send the unit to them, but instead of getting a replacement unit, they will fix the same unit and send it back to you. Officially there isn't an attached reason, but some workers claim it is because families become so attached to their little vacuumers that they cannot let it get replaced. These little cleaners may technically just be programmed to move from one side of the house to another, but between the little bumps, the weird glitches, and noises, it attaches itself to families in the same way stray animals could. Also back in the folk story days, it was said that names have power. That if you were to tell a supernatural spirit your name, it would steal your identity, and take your life away. But these people are giving names to their robots, giving them identities, lives, and a soul.

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Even hold it above their head to show their love for it - Do the same with corndog as I mirror the photos behind me of dad doing the same motion with our roomba

Now I want to go back to 1977. A time where people were under constant fear of war and nuclear annihilation, unfortunately not unlike today. However there were rays of hope. One such hope was the voyager program. While it wasn't going to be the thing that solved earth's problems, people of the time were hopeful that it could do some unifying. The main idea was that due to some very lucky positioning of the planets, lucky in the fact that it happens once every 175 years or so, we could fling some space probes out to the farthest reaches of the solar system, and maybe even beyond. But that's not where the details end. What encompassed most people's hopes was the golden record. The golden record was a literal record placed

inside of both voyager 1 and 2, that had a collection of the human race. It had people saying hello in 55 different languages, laughter, images of mathematical equations, human DNA and anatomy, and things like different cultures' food, architecture, and humans in portraits, and even more. We humans poured out our existence, our souls, into these records, slapped a home address on it and sent it out into the deepest parts of our universe. Maybe in a hundred or thousand years, we won't be around anymore, and the planet might be a mess. If people come to see us, we won't be around to meet them and say hi how are you, we're people too, we're not alone anymore. Maybe we'll be gone. But we built these robots with beaten metal skin and silicon brains. If these other people ask our far flung robots Who were these people?, What were they like?, they can say they called us voyager, and maybe they will find our home, and the ones here will chime in and say, they called us curiosity, they called us explorer, they called us spirit. They must've thought that was important. And they told us to tell you hello.

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Unfortunately not unlike today - Corndog then goes into hiding mode with his paws above his head.

And they told us to tell you hello - Corndog waves hello to the audience again

Now I know souls are complex, which is a very bold thing to say after spending 10 minutes arguing that robots have them, but from Corndog to Voyager, it's a bit too obvious to ignore the possibility that robots might have souls. I have a feeling though that an equally obvious question which is brewing in your minds is "why?". And to that I say intention. Meaning survives when we create with intention. Each of these examples had a deep intention built into

them. Corndog only started working once I found the right goal for him, Cassini was made to study a planet, Can't help myself is an art commentary, the robot vacuums were made to bump into things to clean, and voyager was made to explore and tell us about its discoveries. Intention is when you are able to know why it should exist. However, robots aren't the only thing with intention, as anyone can have intention to create something. For example, take painting. When someone splashes some new paint on a canvas, it might not survive if you are just testing a new technique. No, the pieces that survive are those that embody the true internal intentions, like Starry night by van gogh, where he wanted to show the turbulent pain of his mind as an ecstatic beauty. And here's the secret, everyone has these intentions if you look hard enough. Sure a good amount of things around may just seem like they are demos of what's possible, or cash grabs. But anyone can make something survive into the next day with the right intentions. You can go on to try to fix climate change, or write a play that will impact millions across the globe. But you don't have to dream that big either, for example, all I started with was making a little robot to teach some people. Just try to make an impact that will outlast you because when you create with intention, you are making something that will carry meaning long after you walk away.

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How could I tell it in order to maximize reactions, like an emotional word “grief for cassini…”

Tell the audience what you are going to tell them, and pay it off at the end

If the message is I’m going to show you that robots do have souls, and what I mean by xyz see I showed you at the end

You’re not giving anything away if you say it up front.

Current problems/criticisms/whatever is best to call this stuff:

1. Pacing and clarity
    a. Read it quickly and worry that on stage nerves will make me go even faster, reducing comprehension
        i. Possibly cut sections or build in intentional pauses in order to force slowdown
            1. Other than just practicing a bunch of times, and making sure to include the correct pauses, the only section I am willing to part with is the roomba section, however I still don’t want to do that.
            2. Same number of examples just be more concise with the different pieces of evidence.
2. The intention stuff lands too late
    a. Multiple said that they got the intention stuff too late, as it was only in the conclusion did they realize thats the biggest part of what I am talking about
        i. Try to work in intention more, give the idea that intention is the glue that binds the robots soul to its body
            1. My best guess on how to do this is to try to directly mention the intention that went into each of these robots as they were created/used. I originally thought I had done that but quickly looking it over, I only really noticed me talking about it with corndog. Talk about discovering the universe for cassini and voyager, cleaning the house but in a cute way with bumps and stuff for roombas, and then personifying the pain of being human or doing a sisyphean task.
3. Soul word choice may distract or trigger the wrong debate
    a. Soul is a very loaded word and it could cause people to get in their own heads about why I am wrong before I try anything
        i. Clarify my definition more, and make it a stronger point.
        ii. Use the definition more consistently
        iii. Clarify its not about LLM’s/Generative AI
            1. For clarifying I’m not talking about LLM’s/Gen AI I think its probably easiest to just say that immediately after making the

definition, as a “so this means that these don’t count”. When it comes to using the definition more often, I think referencing the different parts of the definition for each of the evidence would work best. Like using the not interchangeable stuff to talk about voyager’s golden records (call them twins for having two of the same) and then same with roomba and its warranty claim. Possibly for can’t help myself use the idea that it came from a industrial robot that was brought to life per say and now has to stay alive as a unique portion of it. Corndog possibly already speaks for itself as its my creation.

4. Some parts might feel a bit too science-y and data driven
    a. For some parts about cassini and voyager (at least) some of the people said that it was a bit too much about science and not enough about what could be felt
        i. Not quite sure any significant way to fix this, since I already cut down a lot of it to make it more into a story, but will think about it
            1. I think the only thing that I can do (if its determined to be a real problem) is to swap more of the story of creation of these machines with the intention factor mentioned above. I really already brought the science level down already so this annoys me
            2. Really play up the emotional side and give a good juxtaposition on the emotion compared.
5. Corndog is good, use him earlier more and more playfully
    a. People basically said they wanted a lot more corndog, possibly introducing him earlier, making him feel like a partner on stage. Have a dedicated reaction for at least a single part of each of the different plot points
        i. Look back at intro and try to figure out how to properly introduce him, possibly earlier, and if not, in a more impactful way
        ii. Make sure to give him his expressions, try to figure out what expression for what points.
            1. I think for when I introduce him and ask him to say hello he waves, for when I talk about can’t help myself, he mimics the action of scooping the stuff in, for cassini, he puts his paws in front of his face, for voyager something like looking up to space, and for roomba possibly just puppy arms like kicking against my chest. For each of these reactions, possibly call them out in my talk, like “aww it looks like corndog is excited to hear about his siblings” for the roombas or “Aww it’s ok corndog, cassini is dreaming about as many numbers as it could ever want” for when he puts his paws on his face
6. Smooth transitions more
    a. Some people noticed that it just wasn’t a good transition between different sections
        i. Just look at the connections and try to make it better, especially if nothing has happened between it

            1. Possibly use intention? Otherwise use different types of transitions based on the different subject matters
7. Possibly use an example of a robot that doesn't have a soul
    a. Unless I misheard this one, I'm not sold that there's any way that this will help prove my argument. The point I keep coming back to is that humans could be in the same place, doing lifeless jobs, and yet it's easy to consider them to have souls (I think this could be good… a 3d printer is like a robot but doesn't have a SOUL bc it has no intention. I would say a person in a soulless or soul-destroying job doesn't have a SOUL either)
8. Audience engagement
    a. Invite them to consider different robots that they might have in their home in order to prove my point in real time and make it feel less like a lecture
        i. Like coffee machines, fridges, garage doors, etc Stuff that people generally don't give a second thought, but they have already learned all of the different quirks and stuff.
            1. Try to use different things that people interact with on the regular but never consider in this case, like garage doors having to be hit multiple times in order to open properly, the alarm system going off if it gets too cold outside (when its not supposed to) the coffee maker making a big deal when water needs to be replaced even though the machine shouldn't have any problems like that. Printers doing weird motions before they actually start printing, and you become used to it happening. The fridge yelling at you if you leave the door just slightly open. AC being good, and the washer/dryer being like a setting off or some other weird thing.
9. Slides
    a. Use a lot of imagery to better support the stuff
        i. Do high impact, reactable visuals, probably no text, and stuff like can't help myself, cassini falling into saturn (if I can make the animation). Stuff that heightens feelings of grief tenderness, humor, awe.
            1. Need to collect probably 2-3 slides per evidence point

Version 2.1 (for tonight, thursday speaker session 2):

Several months ago, I was doomscrolling on my phone. I stumbled onto a post about different space probes and how James Webb was the big new popular satellite, and how it's getting all the attention. A single line caught my eye: "**Our robots know so much love and gratitude and they'll never know loneliness**". Now most people probably would've just kept on going without thinking much of it.

But then I started taking Corndog, the robot dog I built, to different places to meet different people and I noticed something. When he says hello "say hi buddy", people will say hello back (gesture and wait for people to say it back). If he trips and falls, people immediately volunteer to help him back onto his feet. These interactions don't abide by the common consensus that robots are cold calculating machines. People were happy for the tricks he could do and the effort he put into walking around, and felt sorry for him when he broke or ran out of battery. "I was even becoming proud of the little guy" (have him do a smug dance), almost as if everyone's interactions, including mine, were revealing a SOUL inside him.

Now you might ask "what does he mean by a SOUL?" Well, that's what the talk is about. But I can tell you a definition, and what I don't mean: The quality of a physical entity that makes it unique and not reproducible. So I'm not talking about Generative AI or LLMs or what might survive death.

What I mean is also not limited to personification or anthropomorphism. Humans have given human traits to inanimate objects for thousands of years. Studies have shown we can agree on the traits of rocks [FIGURE from study]. But seeing human traits in rocks or simple tools does not give them a SOUL.

For a SOUL to emerge, we need to add will or INTENTION. This is not our INTENTION *to* create, but rather INTENTION *in* our creations. INTENTION is the fuel that allows CAPABILITY to drive ACTION in the real world. The "real world" part is important, because it means the chance to make a difference, but also to fail. INTENTION in the face of possible failure is what it means to have a soul.

I'm going to show you how imbuing intention gives these machines SOULS. There's a space probe that caused grief to be felt over hundreds of millions of miles away. An artistic piece that embodies the ugly side of humans. Robotics cleaners that people welcome into their families. And a gold disc we endowed with everything that makes us who we are, and then threw as far into the night sky as possible. These are just a few reasons why I suspect we cheer when a rover completes its mission, but not when an axe fells a tree. Because we have imbued our intentions into robots to give them a soul.

Let's start back with Corndog. He has been my pet project for around 2 years now, and boy has he changed. But I'm going to let you in on a little secret. When I first started building him, I didn't really have any goals. I mean I wanted him to work and be interesting, but I only decided to make him because college didn't let me have a drone. He didn't have any intention to guide his creation.

But then I made it to school, and everyone started asking me about him. "Why did you make him? What was your inspiration? What do you want to get out of him?" and all I could answer was an unsatisfying "I don't know". I didn't like that, (Goes full limp mode, paws go out in front, and droops) "and it looks like he didn't either". So, I decided to use him to help others. Not

in a way where he runs into a burning building, but instead as a tool to teach people one way to do STEM.

And everything started snowballing from there. Not only did he start to work properly, but people started to care for him. At one point he had an electrical problem that caused him to start spasming, (He starts making weirdly cursed poses, though nothing dangerous) and someone from across the lab yelled out “Aww Corndog!” as it looked like he was in pain, Cause yeah, that doesn’t look comfortable right now.

Later, I was exhibiting at open sauce, a maker event, and without fail every time someone saw Corndog give a little wave or dance they too couldn’t stop from responding with some primal human emotion.

It happened to you as well. Right at the beginning of this talk when Corndog said hello, you said hello back. You wouldn’t wave to a toaster or garage door opener. You weren’t waving to a collection of plastic and wires. You were waving to Corndog. Because he has a SOUL.

But now I’m going to zoom out. Nearly a billion miles out, to the orbit of Saturn. Back in 1997, NASA sent out the Cassini-Huygens space probe to study Saturn and its natural satellites, like its moons and rings. Originally it was supposed to take almost 11 years to complete its mission. But instead, its mission duration was a month shy of 20 years.

Imagine having a child right when you start working on this grand project, (Goes fetal as I pick him up) ”Corndog likes to be cradled”. For the first few years, everything seems like it's on schedule, after there isn’t really a guide for this. Maybe there's a little bit of a scare when they get lost one day. But y’all keep on going. You are filling them with all of this purpose and intention, hoping that when push comes to shove, they can do what they are made for. And before you know it, you have to make a choice about letting them go, after all, everything must come to an end.

Depending on who you were thinking of, either your child is now going off to college, or Cassini is reaching the end of its life. Parents will try very hard to convince their child to stay around and or even just visit. Cassini’s adoptive parents weren’t any different. In fact they had 9 different ideas for how to keep the probe alive for as long as possible. But in the end, they made the heavy decision to let her lay forever with her planet.

As she was flung into the atmosphere, she sent important reports and data for as long as her thrusters could keep her pointing home. All while the scientists, who were essentially her parents, were crying and grieving for their loss. (Corndog gets sad and I pick him up to put him on my shoulder) “This part always makes corndog sad, let me put you on my shoulder bud” Julie Webster, spacecraft office manager, went on to say “I no longer have a spacecraft that will keep me up at night; after a few days I think I’ll really miss that”. These people who spent 20 years caring for and working with this machine felt the need to empathize with. There may be a line for robots having souls, but it was too blurry with tears to figure out when they crossed it.

However there is one robot where the line between being alive and being a machine is purposely made blurry: Can't Help Myself. Can’t Help Myself is an exhibit made by Sun Yuan and Peng Yu which you might’ve seen bouncing around on social media. In case you haven’t, it is an industrial robotic arm that does one main thing. It scoops a deep red liquid on the floor back to its center to keep itself running. It keeps moving in this sisyphean loop, where it scoops

the liquid back, turns to go to another spot, scoops more liquid in from the new spot, and just never stops. (Corndog does the same scooping motion) "As you can see corndog doing here" Just to be clear as well, it's not literally powered by the red liquid, it does run on electricity.

By giving a very CAPABLE robot arm a single INTENTION, the creators imbue *Can't Help Myself* with a simple SOUL that still manages to communicate a basic aspect of the human condition.

Sometimes though, if the liquid is contained just enough, it'll choose a random preprogrammed emote to do, before quickly returning to keeping itself alive. One of these emotes, (Corndog does the hand raise) "which corndog is showing off right now", is simply raising its hand, just as if it were in a classroom to ask a question.

But as many of you are already doing, people really seem to empathize with this robot. Between comparisons of addiction to working day after day for no real end, *Can't Help Myself* embodies a lot of the worries and fears that people of our day and age have. Strangest of all however, is that people feel sorry for the machine. It's not like it has any real way of showing that it's in pain or wants to stop. Instead we compare it to a human in the same position, wanting to help stop it from working an endless job with no reward. We want to help free it from working endlessly just to survive.

But now I want to ask a simple question. Have you ever cared for a foster pet, and did you name it. I ask this because as the saying goes, if you have a foster pet and name it, it's not a foster anymore, you just adopted it. So what about if you invite an automatic robot vacuum into your home? Not only do people name them, but they make them into family members. Some will reward them by dropping food for them to clean up, get annoyed at it like a child when they try to go outside, and even hold them above their head to show their love. (corndog goes fetal as I do this from my shoulder)

However my favorite way that people show their love is the repair options from a manufacturer Roomba. As you would expect, you can send it to them and get a replacement unit, but the most interesting option is to send the unit to them, but instead of getting a replacement unit, they will fix the same unit and send it back to you. Officially there isn't an attached reason, but some workers claim it is because families become so attached to their little vacuumers that they cannot let it get replaced.

These little cleaners may technically just be programmed to move from one side of the house to another, but between the little bumps, the weird glitches, and noises, it attaches itself to families in the same way stray animals could.

Also back in the folk story days, it was said that names have power. That if you were to tell a supernatural spirit your name, it would steal your identity, and take your life away. But these people are giving names to their robots, giving them identities, lives, and a soul.

Now I want to go back to 1977. A time where people were under constant fear of war and nuclear annihilation, unfortunately not unlike today. (Corndog goes into hiding mode) "Sorry to scare you bud" However there were rays of hope. One such hope was the voyager program. While it wasn't going to be the thing that solved earth's problems, people of the time were hopeful that it could do some unifying.

The main idea was that due to some very lucky positioning of the planets, lucky in the fact that it happens once every 175 years or so, we could fling some space probes out to the farthest reaches of the solar system, and maybe even beyond.

But that's not where the details end. What encompassed most people's hopes was the golden record. The golden record was a literal record placed inside of both voyager 1 and 2, and had the INTENTION of taking the message of humanity to the stars. The identical records carry sounds and data to portray the diversity of life and culture on Earth to any intelligent extraterrestrial life form who may find them. The records have people saying hello in 55 different languages, laughter, images of mathematical equations, human DNA and anatomy, and examples of different cultures' food, architecture, and music.

We humans poured out our existence, our collective SOUL, into these records, slapped a home address on them and sent them out into the deepest parts of our universe. The Voyagers won't pass the nearest star for more than 100,000 years. By then, humanity might be long gone. And as that original post said: "If other people from the stars come from the stars we won't be around to meet them. But our robots can say they called us discovery, they called us curiosity, they called us explorers, they called us voyager. They must've thought that was important. And they told us to tell you hello." (Corndog does the wave again)

Now I know souls are complex, which is a very bold thing to say after spending 10 minutes arguing that robots have them. But these examples, from Corndog to Voyager, show how imbuing machines with CAPABILITY and INTENTION in the real world, where circumstances are unique and failure is a possibility, gives them SOUL. The greater the CAPABILITY and INTENTION, the more apparent the SOUL.

Corndog only started working once I found the right goal for him, Cassini was made to study a planet, Can't help myself is an art commentary, the robot vacuums were made to bump into things to clean, and voyager was made to explore and tell us about its discoveries. Intention is when you are able to know why it should exist. And meaning survives when we create with INTENTION.

Take painting for example. When someone paints a wall or splashes some paint on a canvas to test a new technique, it is quickly forgotten. The pieces that survive are those that embody true INTENTION, like Starry Night by Van Gogh, where he wanted to show the turbulent pain of his mind as ecstatic beauty.

And here's the secret: everyone has INTENTION if you look hard enough. Sure, many things around us may just seem slapped together to make a quick buck. But anyone can make something survive into the future with real INTENTION. You can make a lasting impact to fight climate change, or write a play that will impact millions across the globe. But you don't have to dream that big. I started with making a little robot dog to teach and excite a few people, and I'm going from there. Just try to make an impact that will outlast you because when you create with intention, you are making something that will carry meaning long after you walk away.

Version 3 (Final major release)

[Starts on my shoulder, first button press takes him off my shoulder, second button press primes him to be in standing position, third button press sits him down]

Several months ago, I was doomscrolling on my phone. I stumbled onto a post about different space probes and how James Webb was the big new popular satellite, and how it's getting all the attention. A single line caught my eye. “Our robots know so much love and gratitude and they’ll never know loneliness”. Now most people probably would’ve just kept on going without thinking much of it.

But then I started taking Corndog, the robot dog I built, to different places to meet different people and I noticed something. Something I want you to experience. So everybody, wave and say hi to Corndog. **[Wait and then press button once to have Corndog wave back]** Hopefully you all saw that, but just in case, Corndog just waved back. Not only do people have similar reactions as you just did, but sometimes if Corndog trips and falls, people immediately volunteer to help him back onto his feet. These interactions don’t abide by the common consensus that robots are cold calculating machines. People were happy for the tricks he could do and the effort he put into walking around **[press button now to have him stand up]**, and felt sorry for him when he broke or ran out of battery. “I was even becoming proud of the little guy” **[have him do a smug dance]**, “he knows when I’m gushing about him”, but it was almost as if everyone’s interactions, including mine, were revealing a SOUL inside him. **[Press button again to have him sit down]**

Now you might ask “what does he mean by a SOUL?” Well, that’s what the talk is about. But I can tell you a definition, and what I don’t mean: Soul, noun, The quality of a physical entity that makes it unique and not reproducible. So I’m not talking about Generative AI or Large Language Models or what might survive death.

What I mean is also not limited to personification or anthropomorphism. Humans have given human traits to inanimate objects for thousands of years. Studies have shown we can agree on the emotions, gender, and age of faces we see in inanimate objects. But seeing human traits in rocks or simple tools does not give them a SOUL.

However, it's not as simple as humans giving souls to robots, and they keep operating in the same state. For a similar reason that twins will grow up to be different people, the intention that leads to each of their creations can get bent and twisted until it is unique and not reproducible.

So I’m going to show you how imbuing intention gives these machines SOULS. There's a space probe that caused grief to be felt over hundreds of millions of miles away. An artistic piece that embodies the human condition. Robotic cleaners that people welcome into their families. And two robots we gave everything that makes us who we are, and then threw as far into the night sky as possible. These are just a few examples that explain why we cheer when a rover completes its mission, but not when an axe fells a tree.

Let’s start back with Corndog. He has been my pet project for around 2 years now, and boy has he changed. But I’m going to let you in on a little secret. When I first started building him, I didn’t really have any goals. I mean I wanted him to work and be interesting, but I only

decided to make him because college wouldn't let me have a drone. He didn't have any intention to guide his creation.

But then I made it to school, and everyone started asking me about him. "Why did you make him? What was your inspiration? What do you want to get out of him?" and all I could answer with was an unsatisfying "I don't know". **[press button to make him full limp mode]** I didn't like that, "and it looks like he didn't either". **[Press button to make him sit back up]** So, I decided to use him to help others. Not in a way where he runs into a burning building, but instead as a tool to teach people one way to do STEM.

And everything started snowballing from there. Not only did he start to work properly, but people started to care for him. At one point he had an electrical problem that caused him to start spasming, **[Press button to make him seize up]** and someone from across the lab yelled out "Aww Corndog!" as it looked like he was in pain, Cause yeah, that doesn't look that comfortable right now.

Later, I was exhibiting at open sauce, a maker event, and without fail every time someone said hi to corndog, and saw him give his little wave back, they couldn't stop from having some human reaction to it. It happened to you as well. Right at the beginning of this talk, you said hello to Corndog, and he said hello back. You wouldn't wave to a toaster or garage door opener. You weren't waving to a collection of plastic and wires. You were waving to Corndog.

Now Corndog is a small local example, so I'm going to zoom out. Nearly a billion miles out, to the orbit of Saturn. Back in 1997, NASA sent out the Cassini-Huygens space probe to study Saturn and its natural satellites, like its moons and rings. But even before it was sent on its way, it was already getting a bit of a soul. One of the main ideas of having a soul is that it's unique and not reproducible. While technically the files and code are all probably stashed away in some archive where it will stay until the death of the universe, there has only been one physical entity, one Cassini, that has ever been made. The other main idea is that its creators' intentions have been infused at every step along the way. Every major decision took a village to try to figure out if it would help push her farther along in her mission. And it did help, as she made some amazing discoveries, like the possibility of life on those distant rocks.

However, all things come to an end. And so while her battery was running low, NASA came up with 8 different plans to keep Cassini around. However a final 9th plan was accepted instead, named "Grand Finale". This plan had her crash into Saturn and to let the probe lay forever with her planet. As she was flung into the atmosphere, she sent important reports and data for as long as her thrusters could keep her pointing home. All while her scientists, engineers, and staff, effectively her family, were crying and grieving for their loss. **[Press button to make corndog sad]** "This part always makes corndog sad, let me put you on my shoulder bud" **[Once I have picked corndog up, press the button, and after he is sitting on my shoulder, press the button again to clamp him down]** Julie Webster, spacecraft office manager, went on to say "I no longer have a spacecraft that will keep me up at night; after a few days I think I'll really miss that". Julie wasn't one of the main engineers or scientists, she was an office manager, and she still became connected with Cassini. These people who spent 20 years caring for and working with this machine didn't have a choice in empathizing with her. There

may be a line for robots having souls, but it was too blurry with falling tears to figure out when they had crossed it.

Compare this to a robot where the line between being alive and being a machine is purposely made blurry: Can't Help Myself. Can't Help Myself is an exhibit made by Sun Yuan and Peng Yu which you might've seen bouncing around on social media. In case you haven't, it is an industrial robotic arm that does one main thing. It scoops a deep red liquid on the floor back to its center to keep itself running. It keeps moving in this sisyphean loop, where it scoops more liquid, turns to another spot, scoops even more liquid, and just never stops. **[Press button to make him scoop]** "As you can see Corndog doing here" Just to be clear as well, it's not literally powered by the red liquid, it does run on electricity.

Sometimes though, if the liquid is contained just enough, it'll choose a random preprogrammed emote to do, before quickly returning to keeping itself alive. One of these emotes, **[Press corndog to make him do the handraise]** "which corndog has graciously volunteered to show off right now", is simply raising its hand, just as if it were in a classroom to ask a question.

As many of you are already doing, people really seem to empathize with this robot. Between comparisons of addiction to working day after day for no real end, *Can't Help Myself* embodies a lot of the worries and fears that people of our day and age have. By giving a simple CAPABLE robot arm a single INTENTION, the creators imbued *Can't Help Myself* with a simple SOUL that still manages to communicate a basic aspect of the human condition.

Strangest of all however, is that people feel sorry for the machine. It's not like it has any real way of showing that it's in pain or wants to stop. Instead we compare it to a human in the same position, wanting to help stop it from working an endless job with no reward. We want to help free it from working endlessly just to survive.

But now I want to ask a simple question. Have you ever cared for a foster pet, and did you name it? I ask this because as the saying goes, if you have a foster pet and name it, it's not a foster anymore, you just adopted it. So what if you invite an automatic robot vacuum into your home? Not only do people name them, but they make them into family members. Some will reward them by dropping food for them to clean up, **[Press button to unlock from my shoulder]** get annoyed at them like children when they try to go outside, **[Press button to swap to next position]** and even hold them above their head to show their love. **[Press button final time to make fetal position]**.

However my favorite way that people show their love is the repair options from one of the manufacturers, iRobot. **[Press button to move into sitting position]** As you would expect, you can send a broken robot to them to get a replacement unit, but the most interesting option is to send the unit to them, and instead of getting a replacement unit, they will fix the same unit and send it back to you. Officially there isn't a reason given, but some workers claim it is because families become so attached to their little vacuumers that they can't let them get replaced.

These little cleaners may technically be programmed to move from one side of the house to another, but between the little bumps, the weird glitches, and noises, they attach themselves to families in the same way stray animals could. They come out of the factory being identical but

by the time a family has adopted this little machine, and welcomed them into their home, it's become irreplaceable and unique with intention.

Also back in the folk story days, it was said that names have power. That if you were to tell a supernatural spirit your name, it would steal your identity, and take your life away. But these people are giving names to their robots, giving them identities, lives, and souls.

Now I want to go back to 1977. A time where people were under constant fear of war and nuclear annihilation, unfortunately not unlike today. **[Press button to make him hide]** "Sorry to scare you bud" However there were rays of hope. One such hope was the voyager program. **[Press button to make corndog stop hiding]** While it wasn't going to be the thing that solved earth's problems, people of the time were hopeful that it would unify the world just a little bit.

The main idea was that due to some very lucky positioning of the planets, lucky in the sense that it happens once every 175 years or so, we could fling some space probes out to the farthest reaches of the solar system, and maybe even beyond.

The Voyager probes were made to explore the outer planets and tell us about their discoveries. But this was a unique opportunity to have those robots carry INTENTION into the boundless extremes of distance and time. They would still explore, of course, only they would have something to tell whoever found them.

We humans poured out our existence, our collective SOUL, into these robots, slapped a home address on them and sent them out into the deepest parts of our universe. The two Voyagers have data of people saying hello in 55 different languages, laughter, images of mathematical equations, human DNA and anatomy, and examples of different cultures' food, architecture, and even music.

The Voyagers won't pass the nearest star for more than 100,000 years. By then, humanity might be long gone. But we'll have other robots waiting to greet anyone who comes looking for us. As an the original post put it:

> "If other people from the stars come here... we won't be around to meet them... But our robots can say: 'they called us Discovery, they called us Curiosity, they called us Explorer, and they called us Spirit. They must've thought that was important. And they told us to tell you hello.'" **[Press button to make corndog wave again]**

Explaining souls can be an extremely complicated task, which is a bold thing to say after spending 10 minutes arguing that robots have them, but I think intention is the one word that explains everything. **[Press button once I pick him up, then press again once on shoulder]** Corndog only started working once I found the right goal for him; Cassini was made to study a planet; *Can't Help Myself* works endlessly to just live and evokes the desire for more than that; robot vacuums try a thousand times to pick up the same spot of dirt, and the Voyagers carry the soul of humanity into the cosmos.

These examples show how imbuing machines with CAPABILITY and more importantly, INTENTION in the real world, where circumstances and experiences are unique, gives them SOUL and lasting meaning. That meaning survives when we create with INTENTION.

But we don't always do this. Creations without INTENTION may meet the need at hand, but probably not much more. They won't have souls. They won't have lasting meaning. Take

painting as an example. When someone paints a wall or tests a new technique on canvas, it is quickly forgotten. The pieces that survive are those that embody true INTENTION, like Starry Night by Van Gogh, where he wanted to show the turbulent pain of his mind as an ecstatic beauty.

And here's the secret: everyone has INTENTION if you look hard enough. Sure, many things around us may just seem slapped together to make a quick buck. But anyone can make something survive into the future with real INTENTION. You can make a lasting impact to fight climate change, write a play that will impact millions of people across the globe, or develop a game that forces people to reconsider their beliefs.

But you don't have to dream that big. I started with making just a little robot dog to teach and excite a few people, and I'm going from there. Just try to make an impact that will outlast you because when you create with intention, you are making something that will carry meaning long after you walk away.