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Dog Translator

The old saying goes "One of man's best friends in life is his dog". Although from experience I know that at times a relationship with a dog is frustrating beyond explanation, mostly because of the inability to communicate effectively with each other. The relationship between a dog parent/owner and a dog can especially be a frustrating relationship at the puppy stage, if the dog is from the animal shelter or the dog is simply a free spirit, to say the least. Tasks like potty training and getting rid of dog habits such as chewing things, digging holes, fighting, etc. can be very time consuming and require great patience. Sometimes the tasks can be so challenging that a person would rather give their dog up to an animal shelter or another person because of feeling hopeless and unable to communicate or connect with the dog. When I got my dog Laya as a puppy, she loved to chew on everything. One day I came home from work to half of my couch torn to pieces, and that was a time where I felt hopeless and disconnected with her and felt that I would never be able to break her habit. I was so mad at her but deep down I knew that it wasn't her fault because she couldn't understand why it was bad. If only I had a way to communicate with her in a way that she truly understood me and vice versa. How amazing it would be if I could speak dog or Laya could speak English! I'm sure that there are other dog owners like me who wished the same thing.

There are many ways that could solve the language barrier between humans and dogs and there are companies that are working to solve the problem today. Most of the approaches that I

have seen on the market are just simple apps that only humans can use to try and understand the dog. In my opinion the best way to solve the issue is to create some kind of wearable automatic translation device for both the human and the dog. The devices would have to interact with the world by listening to and analyzing language and body movements from both the dog and human and be able to translate what the dog or human is saying in an instant. The device would be considered a robot, that is a cognitive system and that uses machine learning as well. The device is a cognitive system because it will be a conversational agent between the dog and the human. It is a robot because it will need to interact with the world in a way that it constantly listens for and recognizes specific human and dog speech, and movements and then uses that data to interact with the other party. Machine learning will be important for the development of the device in many ways. People and dogs change overtime, so the device would have to continue to learn new words, languages, body cues, gestures, movements, facial expressions and more as time goes by. The device should be able to collect data from each interaction through a dog and human relationship so that their device data is customized to their needs because every dog human relationship will be unique.

I think that the best piece of hardware to use for the translation of a dog to human and vice versa would consist of two different devices; one that the human would wear and one that the dog would wear. If I am to project far into the future, I imagine that there could be some kind of brain implant device for both humans and dogs that could work as a translation tool especially because of all the progress made with Nueralink and other neuroscience technology; but that's farfetched. The problem with pet translation technology today is that only tools are being made for the human to translate what the dog is saying. If there is to be true valuable communication with the dog and human each would need a device to translate each other. Building a device for a

human to wear will be much easier than building a device that a dog can wear because of humans' biological structure, physical abilities, and human tendencies. Building a device for a dog to wear could be a much more challenging task because of the limited places to attach a device to a dog so that it does not get damaged and so that it is in a place that allows the device to always communicate with the human effectively. With those challenges in mind the device for both the human and dog would need some type of audio input hardware, and a camera. The audio input would receive the words being said and the camera will track body language, both very important parts of language. Finally, there would need to be a component of the devices that relays the information gathered during translation to the human and dog. It could be a speaker that plays out loud or in each one's ear. Having a speaker or earphone that translates could make communication a slow and difficult process but being that there aren't any devices like this made yet, it would be quite amazing in my opinion.

There are some ethical concerns about the devices as well. Even though it may be hard to communicate with dogs and the communication barrier can bring up many emotional and physical challenges, in a way it makes the relationship between a human and a dog even more special. For example, there are times where I feel like my dogs and I really understand each other when I teach them a trick, or I can tell them something and they seem to understand me. Knowing that communication with them is such a challenge makes those moments even more special. Would creating a device to help us speak the same language take away that connection that we hold? Would that be a bad thing, or would it strengthen our relationship? Another issue is that dogs are so limited with what they can say, do, or eat so if they could speak our language how would that change that? If they have the capacity and capabilities to do other things than what we originally think that a dog is capable of, what kind of rights would they deserve now?