

## Wednesday Challenge Form

Group Members: Maddie, Arthur, Derek, Lucas

**Problem Statement:** Create a machine that can tell the difference between a cat and a dog. You may not harm the dog or have any human assistance apart from placing the animal in front of the machine.

**Approach:** An obvious difference between a cat and a dog is the location of the dew claw. Both are made of the protein keratin. Use keratin sensors to detect the location of the dew claw. Depending on the location, it would be a cat or a dog. A dog's dew claw is located on the lower section of their legs. A cat's is located on the inside of their paw.

**Solution:** Use a bowl of water to distinguish the difference of the tongue's movement.

**Lessons Learned:** Be effective, and have more people participate.