

1. 1. Kyla Jenkins, Skill: Knowing parts and functions of Neurons, Question: What are the parts of a neuron? Myelin Sheath, axon bodies (where action body goes to), Cell body aka soma where DNA and nucleus body exists, Sodium potassium pump used for depolarizations
2. Sunwoo, Skill: YOLO tool proficiency, Question: What is the YOLO tool? It is a CNN that is useful to figure out bounded box areas.
3. Anthony, Skill: Bounded Box algorithms, Questions: How is data processed for bounded boxing implementations? This can be done by annotating manually in CVAT.

2. We can utilize object detection from the computer vision team that can output bounded box regions for the fish in question. This output can help us as the ML expression team to create ML models to characterize these bounded boxes.

3. How do we calculate a pseudo-inverse?

To calculate the Moore-Penrose pseudoinverse, one can use the singular value decomposition (SVD) of the matrix A . The SVD of A is a factorization of the form $A = U\Sigma V^T$, where U and V are orthogonal matrices and Σ is a diagonal matrix containing the singular values of A .

What is the experimental design for a cichlid mating experiment?

1. Selection of study species: Select a specific species of cichlid that is known to exhibit interesting or unique mating behaviors, and that can be obtained and maintained in a laboratory setting.
2. Housing and conditioning: House the cichlids in a controlled laboratory environment that mimics their natural habitat as closely as possible. Condition the fish to the laboratory environment and feed them an appropriate diet for at least several weeks prior to the experiment.
3. Pair formation: Select male and female fish for pairing, ensuring that each pair is matched for size, age, and other relevant characteristics. Introduce the pairs to a mating tank or aquarium.

How do we set up a raspberry pi in lab?

1. Download and install the operating system: Choose an operating system, such as Raspbian, and download the image file from the Raspberry Pi website. Follow the instructions to write the image to an SD card using a program such as Etcher.

2. Connect the Raspberry Pi to peripherals: Connect the Raspberry Pi to a monitor, keyboard, and mouse using the appropriate cables. Connect the power supply to the Raspberry Pi.
3. Boot the Raspberry Pi: Insert the SD card into the Raspberry Pi and power it on. The Raspberry Pi should boot into the operating system.
4. Configure the Raspberry Pi: Follow the on-screen instructions to set up the Raspberry Pi, such as setting the time zone, connecting to a Wi-Fi network, and creating user accounts.