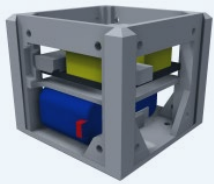


A decorative graphic consisting of a network of nodes and connections. The nodes are represented by circles of varying sizes and colors (gray, blue, and white with a blue outline). They are interconnected by thin lines, forming a complex, branching structure that is more dense in the corners and sparser towards the center. The overall style is clean and modern, typical of a technical or scientific presentation.

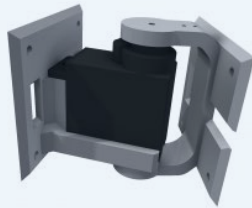
# Robogen

# Body parts

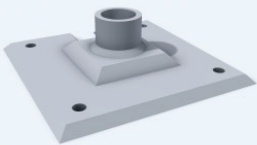
## Active Components



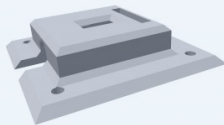
**Core Component**  
3 axis accelerometer  
3 axis gyroscope



**Active Hinge Joint**

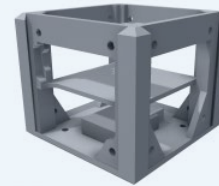


**Light Sensor**

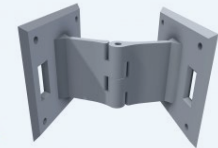


**IR Sensor**

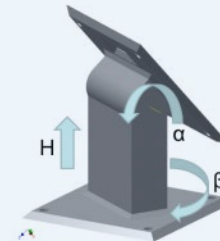
## Passive Components



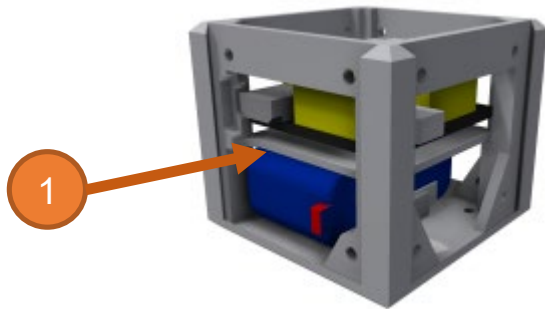
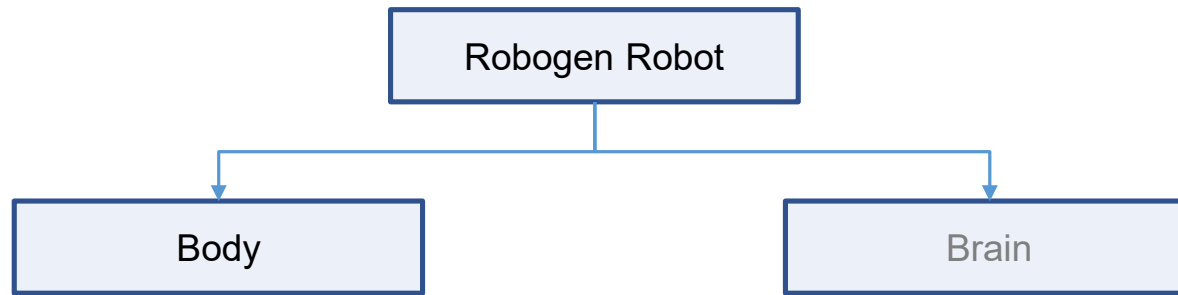
**Fixed Brick**



**Passive Hinge Joint**



**Parametric Bar Joint**

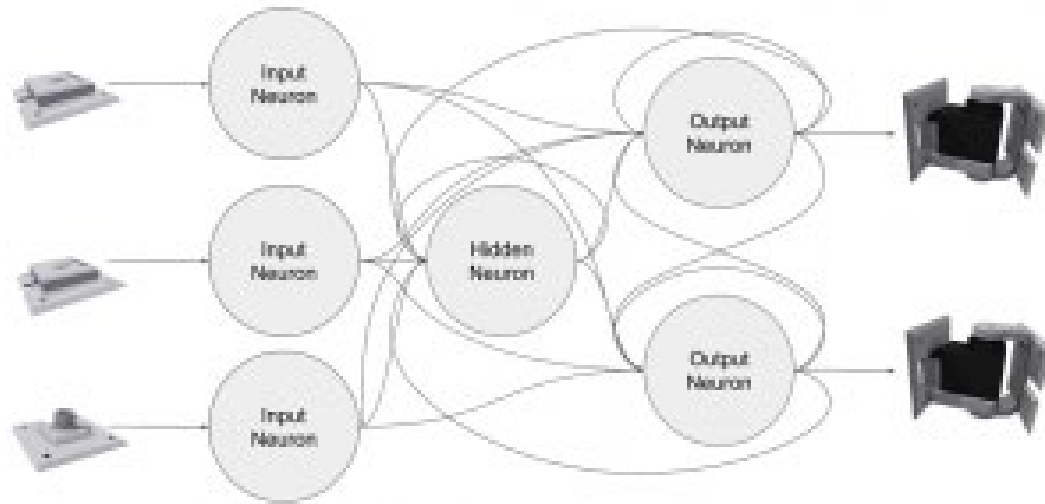
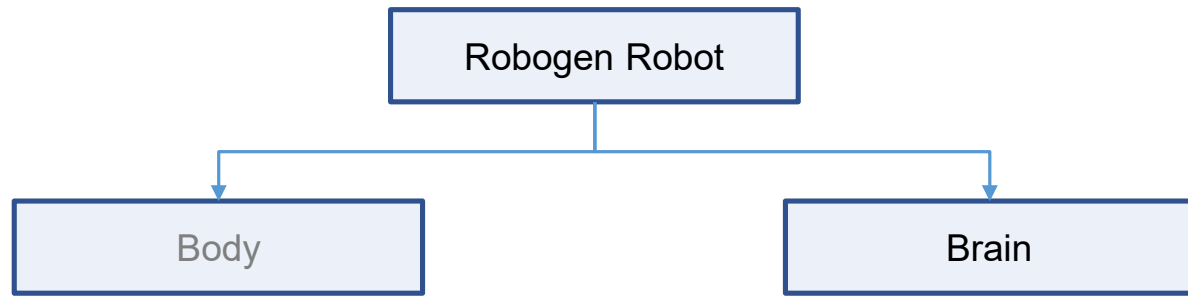


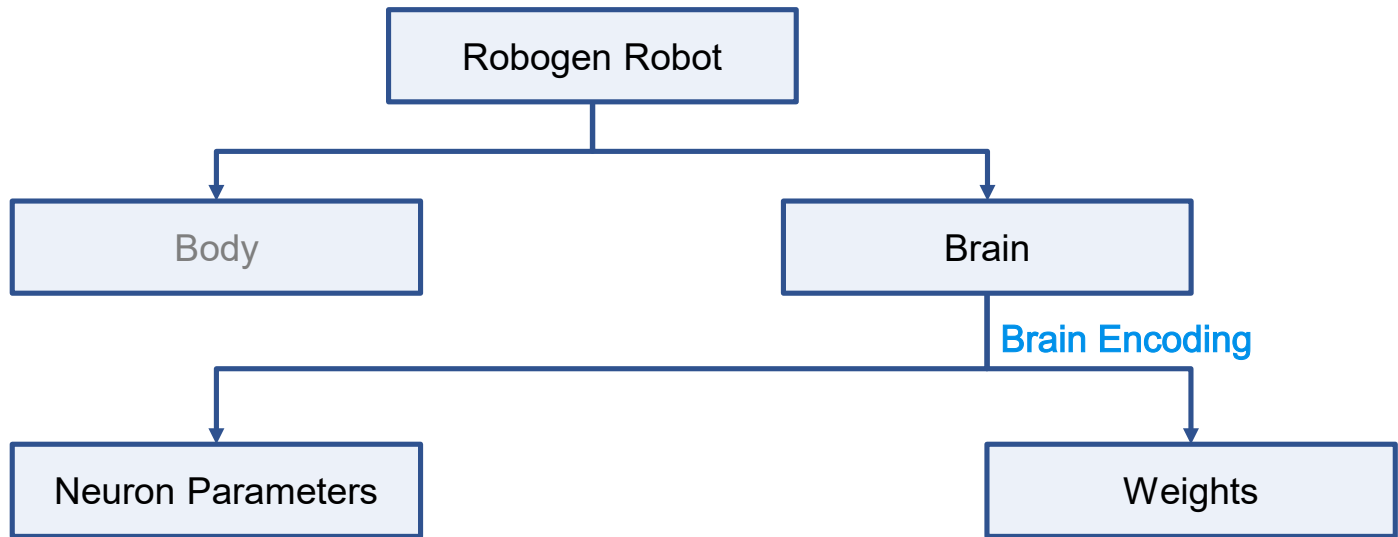
## Body Encoding

1. Attachment position at parent part, 0-3
2. Part type (full CamelCase string or character code)
3. Unique identification string/ name of the part.
4. Orientation relative to parent, 0-3, representing increments of 90 degrees
5. Parameters for parametrized parts (if applicable)

For the parametrized joint the parameters are, in correct order:

1. Length: (in meters, between 0.02 and 0.1)
2. Rotation-Angle
3. Inclination-Angle





SIGMOID  
OSCILLATOR

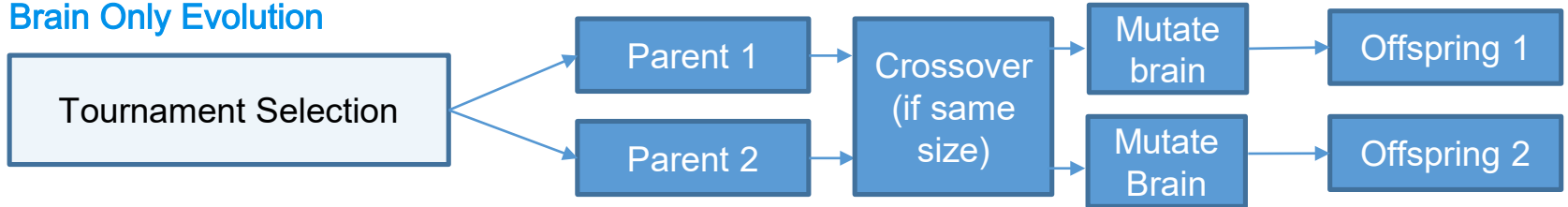
Bias	Gain	-----
Period	Phase Offset	Gain

Non Input Neurons

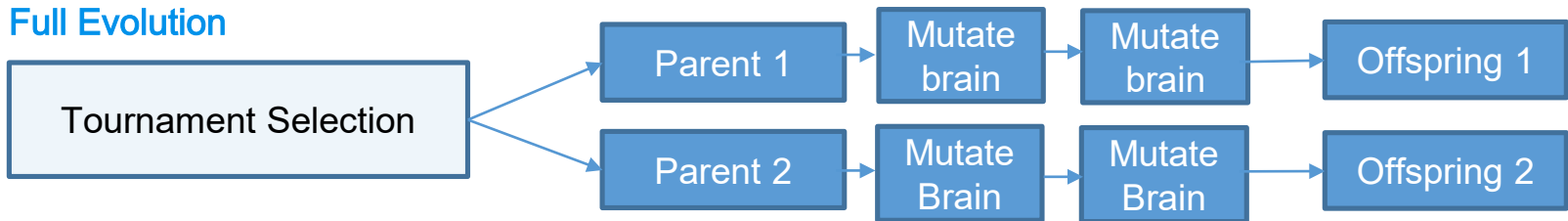

All Neurons

# Evolution

## Brain Only Evolution



## Full Evolution



# Crossover

## Parent 1

Weight Matrix  
Non Input Neurons


Parameters Matrix

SIGMOID  
OSCILLATOR

Bias	Gain	-----
Period	Phase Offset	Gain

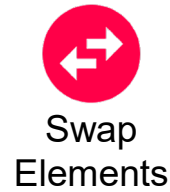
## Parent 2

Weight Matrix  
Non Input Neurons


Parameters Matrix

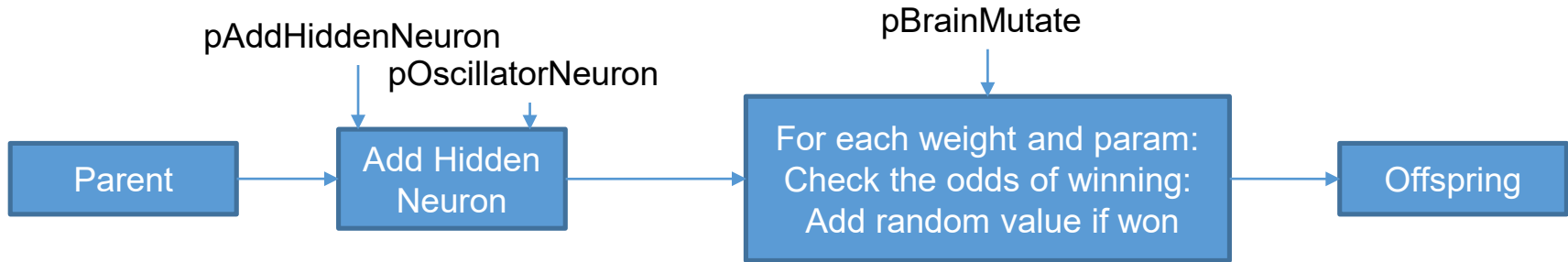
SIGMOID  
OSCILLATOR

Bias	Gain	-----
Period	Phase Offset	Gain



# Mutation

## Mutate Brain



## Mutate Body

