1 Specifications

Tasks are given a priority ranging from one (highest) to three (lowest).

1.1 Stage 1A: Visual Pre-processing

Task	Priority	Sprint
Do something minor.	3	1
Do something normal.	2	1
Do something major.	1	1

1.2 Stage 1B: Pattern Recognition

Task	Priority	Sprint
Consolidate Spike-Response Model neuron as a Python class.	2	1
Consolidate pattern and noise sample generators as a Python class.	2	1
Design and implement unit tests for neuron.	2	1
Design and implement unit tests for generators.	2	1
Add the ability to save and load samples for testing.	3	1
Make single pattern recognition neuron into an module.	1	1
Extend single pattern recognition neuron to model competing patterns.	1	1
Analyse impact of varying noise on pattern recognition neurons.	2	1

1.3 Stage 1C: Integration

Task	Priority	Sprint
Define the points of integration between both modules.	1	2
Design unit tests for connecting neurons.	1	2
Connect visual pre-processing neurons to pattern recognition neurons.	1	2
Implement unit tests for sample visual input.	2	2
Implement unit tests for sample visual input.	2	2

1.4 Stage 2: Action-Selection Mechanism

Task	Priority	Sprint
Define actions to be taken by the biomimetic agent.	1	3
Create tests to measure success of action taken given input.	2	3
Design basic environment for simulated agent.	1	3
Implement basic environment for simulated agent.	1	4
Implement unit tests to ensure integrity with rest of the system.	2	4
Extend simulated environment to approach behaviour in nature.	3	4
Run extended tests with various inputs and refine mechanism.	2	5
Analyse how results compare to the literature.	2	5

1.5 Stage 3: Embodiment of Agent for Real-World Interaction

Task	Priority	Sprint
Prepare software in agent for prototyping.	1	6
Set wireless real-time connection between GPU and agent.	1	6
Define measure of success for agent's interaction with its environment.	1	6
Write unit tests for sample simulations in agent's operating system.	1	6
Test agent in predefined real-world environment.	1	7
Analyse effect of different targets on success of agent.	1	7