

API Reference for the Flappy server

This document serves as an overview for the GAs (Genetic Algorithms) and ANNs (Artificial Neural Networks) portion of the server software.

****All classes have additional fields but those not mentioned are irrelevant**

NeuralNetwork class:

- **inputs** - Input Neurons Array
- **hiddens** - Hidden Neurons Array
- **outputs** - Output Neurons Array
- **Fitness** – A measure of how well the network did.

Neuron class:

- **outputWeights** – an array of outgoing weights to the next layer.

Utils class: Supplies several utilities for generating randomness:

Static?	Return Type	Name	parameters	Purpose
Yes	int	RandomRange	int min int max	returns a random integer in range (min, max)
Yes	float	RandomRange	float min float max	returns a random float in range (min, max)
Yes	bool	RollOdds	float successPrecentage	returns true successPrecentage of times. Uniformly distributed.
Yes	Generic	RandomElement	IList<T> array	returns a random element from array