Describe in a forum discussion thread for your course project work. Select one of the group members to post the message that should contain:

**Topic of your work (describe with few sentences)**

Neural Network Navigation Learning Robot, a.k.a. NNNLR-9000. Robot that moves and scans surroundings autonomously and learns to move around without hitting obstacles.

**Technology you're using**

**Implementation plan**

**Hardware needed for the implementation (as of in the moment of writing)**

* Arduino uno
* 3x ultrasonic sensor
* Arduino Adafruit Motor Shield v. 2.3
* Raspberry Pi v.3
* HC-05 Bluetooth Module

**Description of your software solution (main algorithms, software components; at this point for example in pseudo code or verbal explanation if you don't have actual implementation available yet)**

Arduino digital pin layout:  
IO 0: Bluetooth TX

IO 1: Bluetooth RX

IO 2: Left trig

IO 3: Left echo

IO 4: Front trig  
IO 5: Front echo

IO 6: Right trig  
IO 7: Right echo

**A picture of your current implementation**

Muutamia Q-learning tutoriaaleja: Neuroverkko ajaa kolmen sensorin avulla pelissä(\*1) ja sitten se kytketään Ultrasonic sensorien kanssa RC-autoon(\*2).

(1) <https://blog.coast.ai/using-reinforcement-learning-in-python-to-teach-a-virtual-car-to-avoid-obstacles-6e782cc7d4c6>

(2)

<https://blog.coast.ai/reinforcement-learning-in-python-to-teach-an-rc-car-to-avoid-obstacles-part-3-a1d063ac962f>

Helposti lähestyttävä copy-paste Q-learning tutoriaali:

http://outlace.com/rlpart3.html