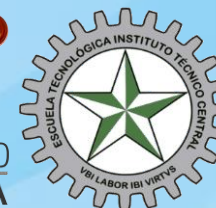
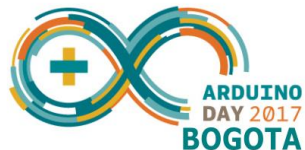
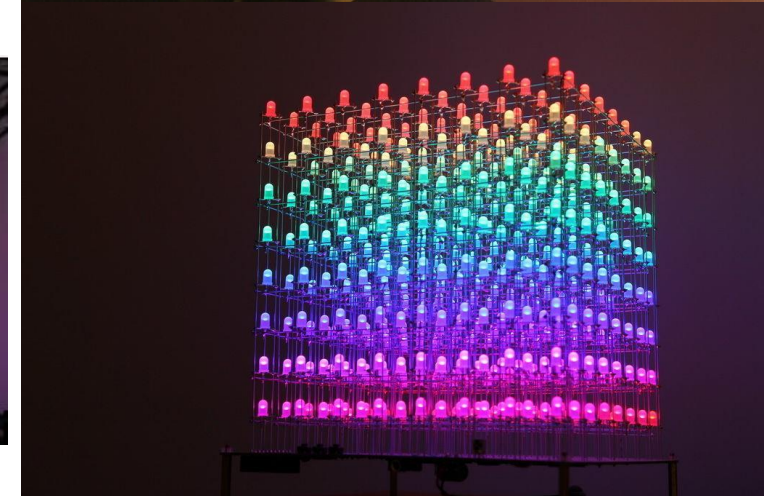
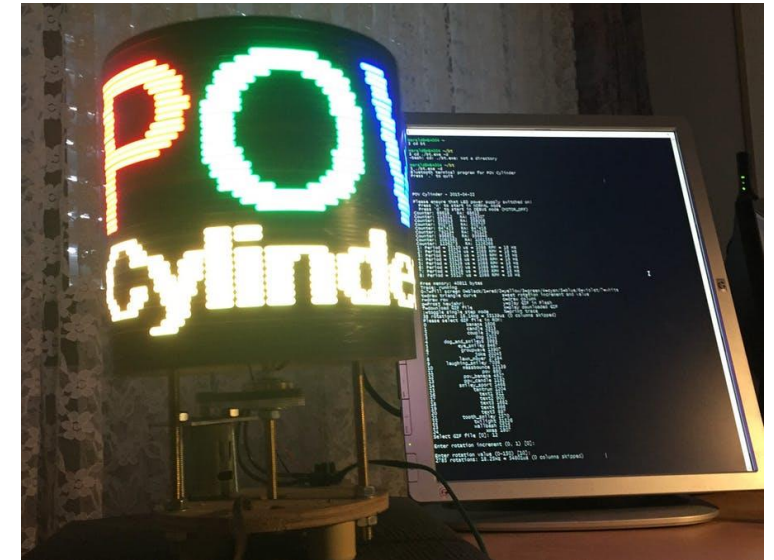
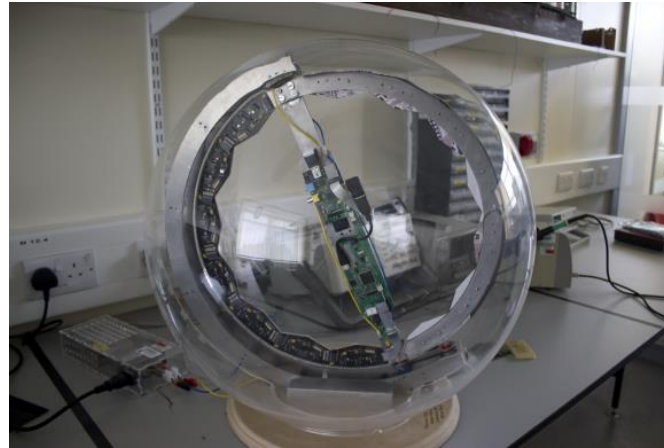
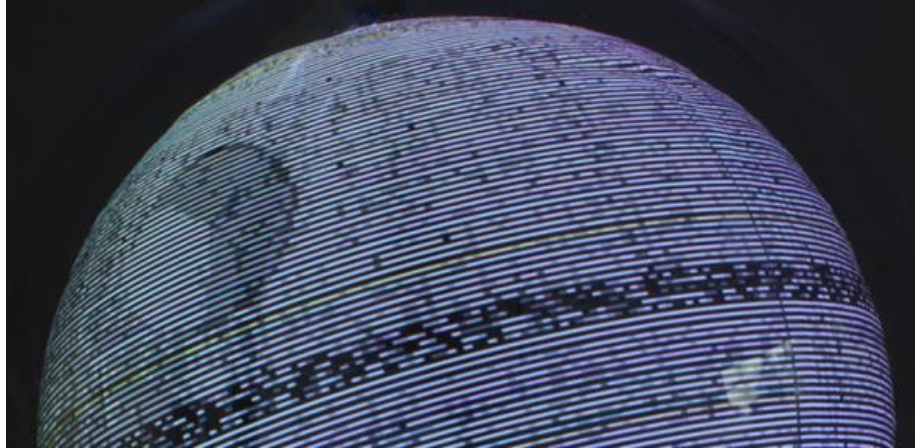


28 cosas que se pueden hacer con Arduino

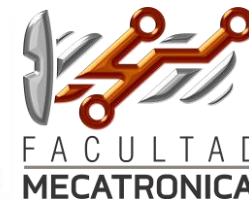
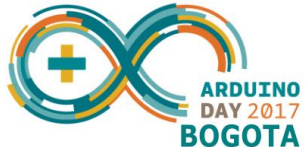
Sergio Enrique Ramírez Moreno (ETITC), Javier Garzón (IXMATIC)



1. Cubo, esfera o cilindro de LEDS



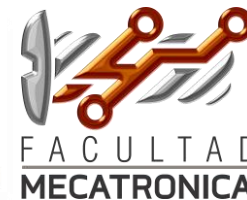
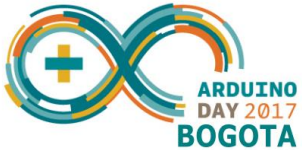
- <https://www.youtube.com/watch?v=i7kSU-lAmmc>
- <https://www.youtube.com/watch?v=CaYXQEeb2GU>
- <https://povglobe.wordpress.com/system-overview/>
- https://www.hackster.io/hanoba_DIY/pov-cylinder-with-arduino-due-7016d5



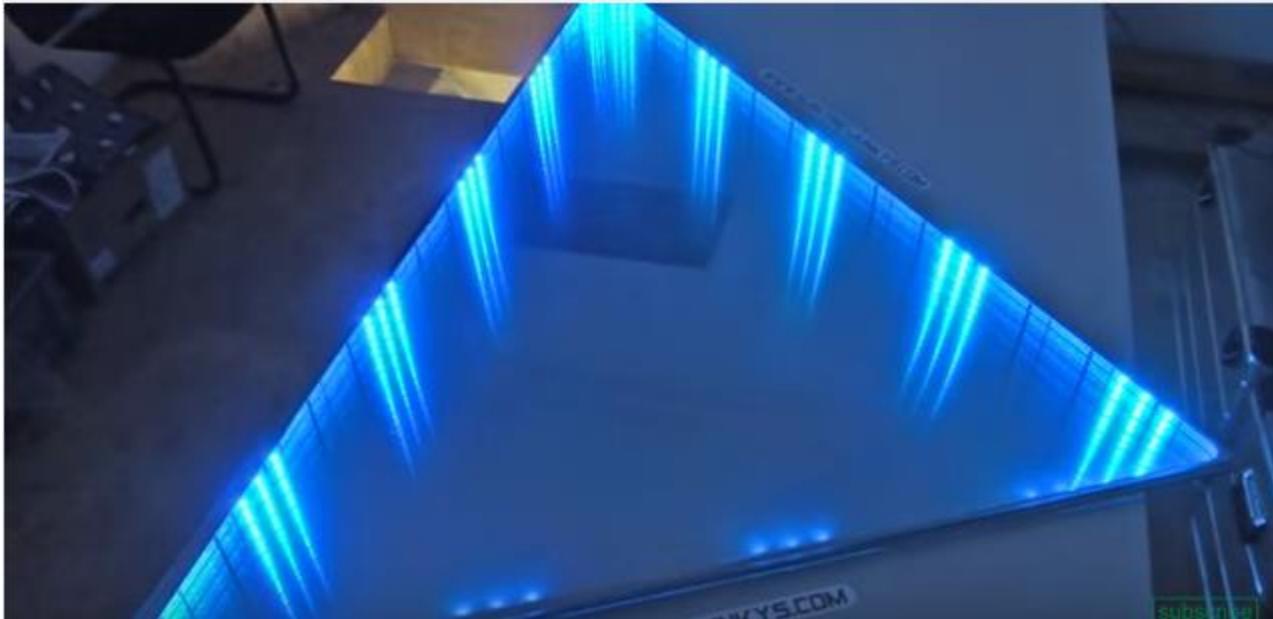
2. Pantallas gigantes con LEDs



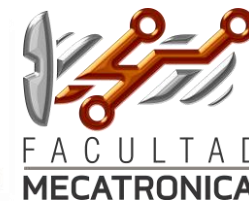
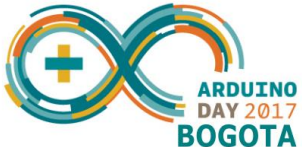
- <https://learn.adafruit.com/dotstar-pi-painter>
- <https://wp.josh.com/2016/05/20/huge-scrolling-arduino-led-sign/>



3. Espejo infinito LED (LED infinity mirror)

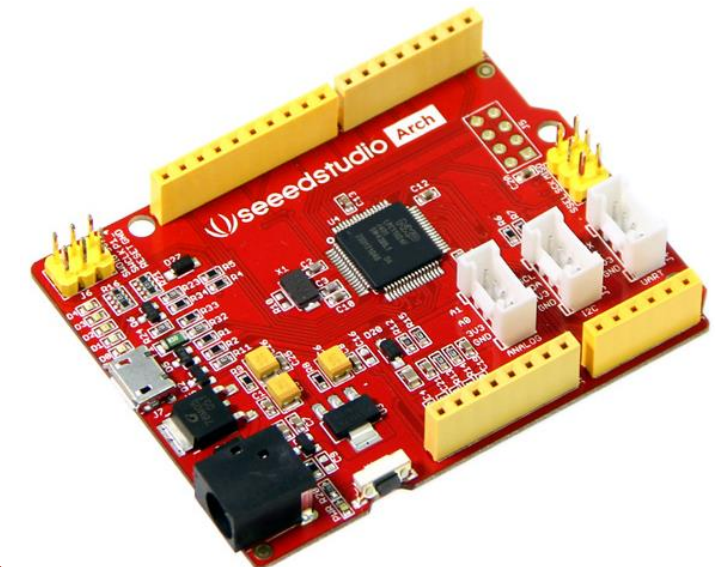
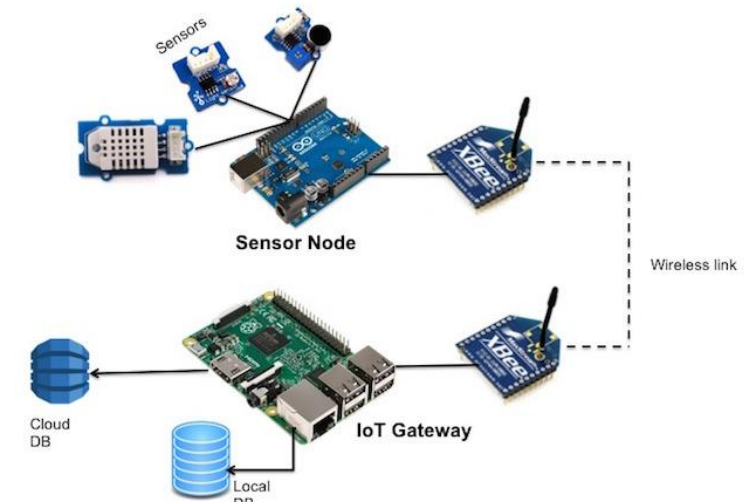


- <https://www.youtube.com/watch?v=0UQ3-BjeHq4>
- <https://www.youtube.com/watch?v=zX3tFWwlfXM>



4. Conectar dispositivos a Internet (IoT)

The image shows a multi-part screenshot. On the left, a web browser displays 'Situacion Ambiente' with sensor data: analog input 0 is 592, 1 is 591, 2 is 577, 3 is 595, 4 is 613, and 5 is 611. A note says 'La página se actualiza cada 15 segundos.' In the middle, a terminal window shows HTML code for a page titled 'LECTURAS ANALOGICAS_4'. On the right, the ThingSpeak dashboard shows 'Channel Stats' (Created 4 days ago, Updated 16 minutes ago, 1766 Entries), 'Field 1 Chart' (Qmote Humidity Statistics), 'Field 2 Chart' (Qmote Temperature Statistics), a 'Humidity Gauge' showing 53.39, and a 'Temperature' gauge showing 25.32.

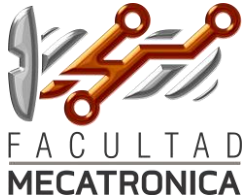


- https://www.hackster.io/mc-Things/wireless-temperature-sensor-network-mcthings-losant-e756a9?ref=tag&ref_id=internet%20of%20things&offset=17
- <https://thingspeak.com/>
- <https://www.youtube.com/watch?v=7gXcTBHLCrc>
- <https://geekytheory.com/tutorial-arduino-comenzando-con-xbee>
- <http://www.prometec.net/kit-inicio-xbee/>
- <https://aprendiendoarduino.wordpress.com/tag/xbee/>
- <https://developer.android.com/things/index.html> , <https://www.mbed.com/en/> , <https://www.seeedstudio.com/seeeduino-arch-p-1561.html>

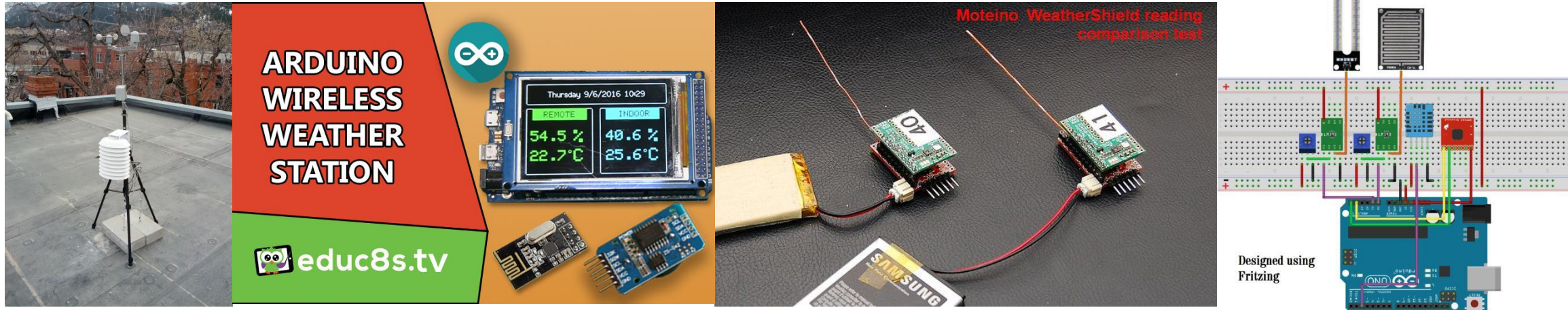


5. Computadores para usar (wearable computers)

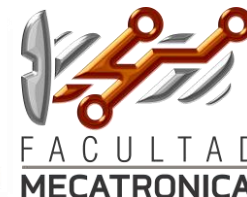
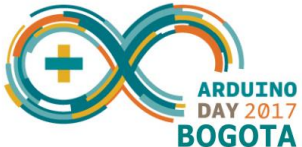
- <http://wearablesforgood.com/about/>
- <https://learn.adafruit.com/category/wearables>
- <https://learn.adafruit.com/flora-gps-jacket>
- <https://www.adafruit.com/products/659>
- <https://learn.sparkfun.com/tutorials/tags/wearables?page=all>
- <https://www.youtube.com/watch?v=tQbByKZh5Vg>
- https://www.youtube.com/watch?v=oo_7s4TrL28
- <https://www.youtube.com/watch?v=p3QPYPBpsB4o>
- <https://hackaday.io/project/12876-chronio>



6. Estación climática

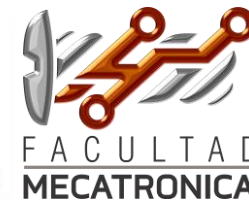
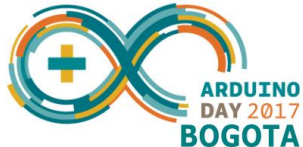
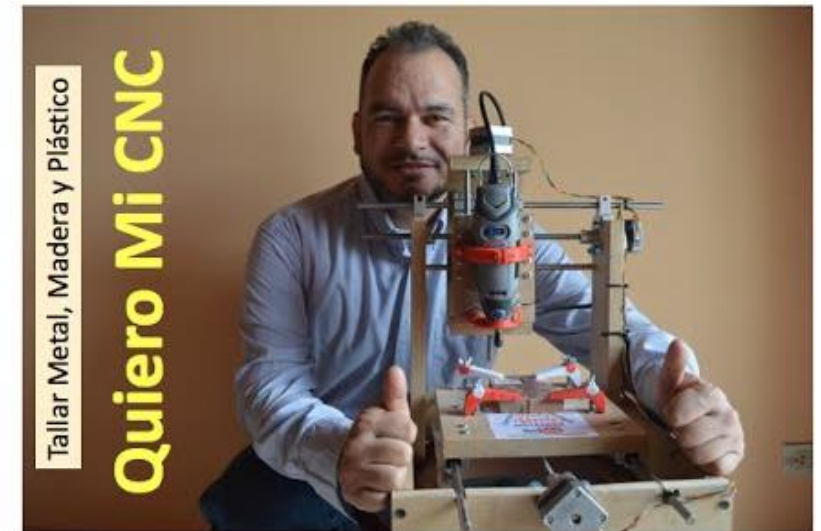
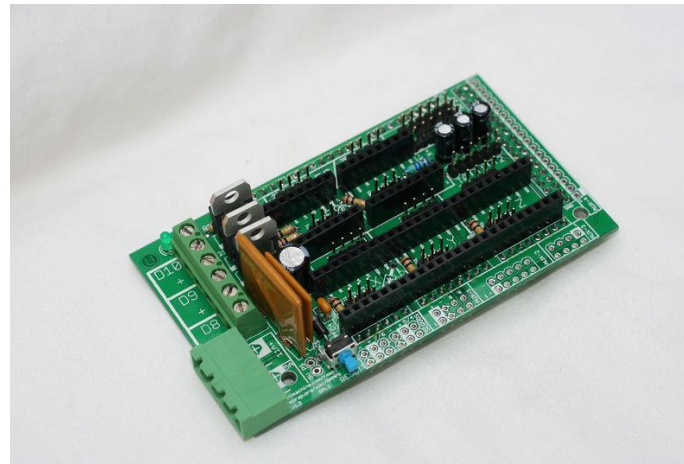
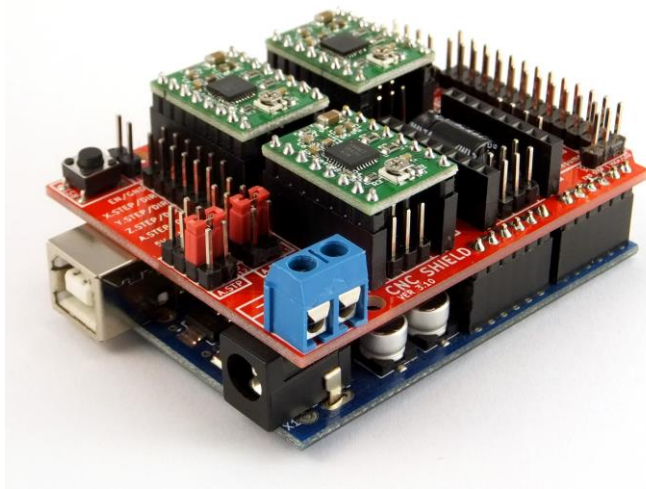


- <https://lowpowerlab.com/shop/product/123> , <https://www.youtube.com/watch?v=ZtuYfh-BKL0&index=4&list=PLdsk1yOqUj2wRX54sb91xoeZnv-yk3cMO>
- <https://learn.sparkfun.com/tutorials/weather-station-wirelessly-connected-to-wunderground>
- <http://educ8s.tv/arduino-wireless-weather-station/>
- <http://www.instructables.com/howto/Automat+Weather+Station/>



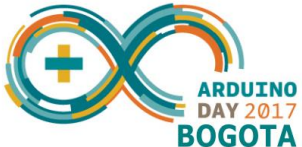
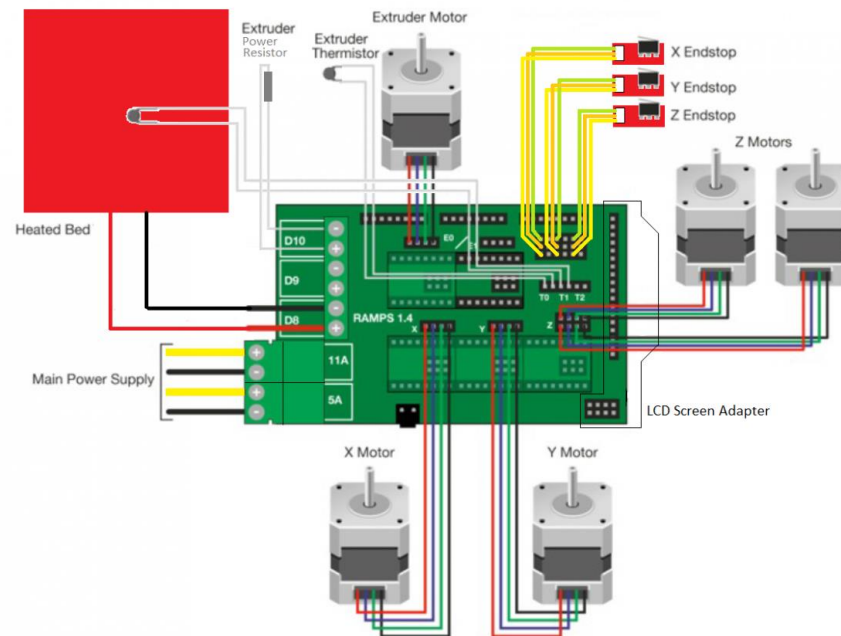
7. Construir una máquina CNC

- https://www.youtube.com/watch?v=X4BLydtpllo&list=PLnwu2s7SlakR-0Gs5vAO_1sfWDOy9mBE0
- GRBL: <https://github.com/grbl>
- RAMPS: http://reprap.org/wiki/Arduino_Mega_Pololu_Shield



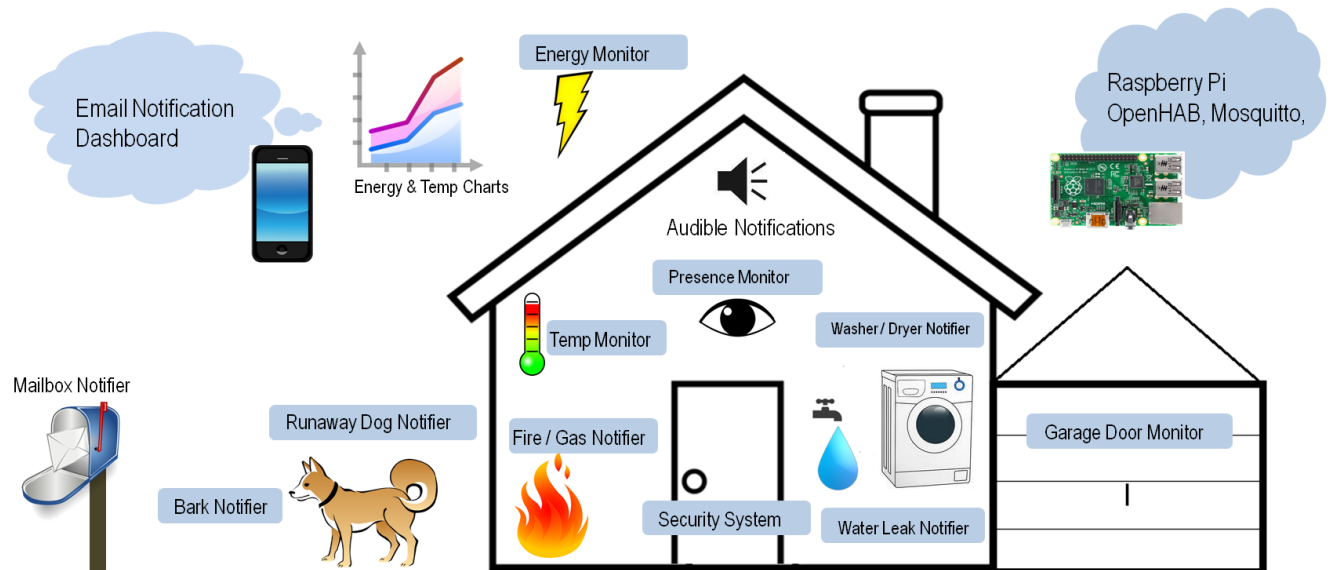
8. Construir una impresora 3D

- http://reprap.org/wiki/Main_Page
- <http://www.makeblock.com/showcase/building-your-makeblock-3d-printing-project-with-arduino>



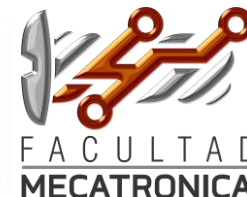
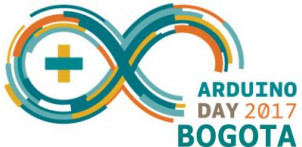
9. Controlar una fábrica, casa o proceso industrial

- <http://www.lafabbricainfiera.org/>
- <https://hackaday.io/project/1720-20-wireless-arduino-home-automation-w-openhab>
- <https://blog.arduino.cc/2016/09/01/sorting-cucumbers-using-ai-raspberry-pi-arduino/>



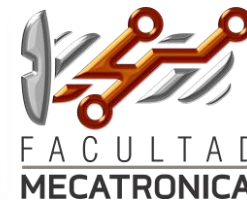
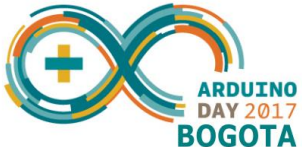
10. Construir un PLC

- <https://www.industrialshields.com/es/>
- <https://www.open-electronics.org/arduino-as-a-programmable-logic-controller-plc/>
- <https://www.youtube.com/watch?v=A1OFoECg-SA>
- <https://controllino.biz/>



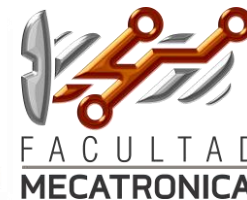
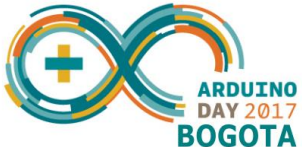
11. Conectar un Arduino con un PLC

- https://www.youtube.com/watch?v=SFH_4E0CwM
- <https://www.youtube.com/watch?v=Bxq6RQLI0mo>



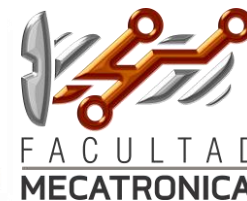
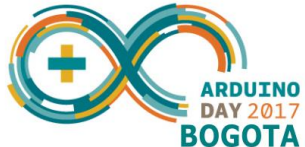
12. Conectar un Arduino a MATLAB o Labview

- <https://geekytheory.com/arduino-y-labview>



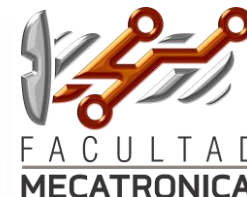
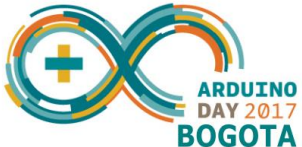
13. Robot controlado por Bluetooth o WiFi

- <http://www.ardumotive.com/bluetooth-rc-car.html>



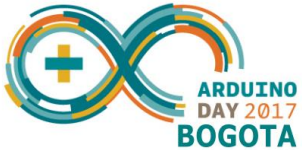
13. Enseñar Robótica a niños

- https://create.arduino.cc/projecthub/roboholics/young-makers-make-the-headlines-in-greece-e19401?ref=platform&ref_id=424_trending_offset=5



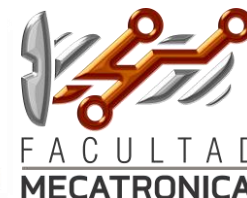
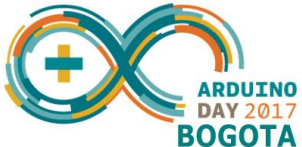
14. Construir Robots

- https://create.arduino.cc/projecthub/mjrobot/maze-solver-robot-using-artificial-intelligence-4318cf?ref=user&ref_id=124266&offset=1
- https://create.arduino.cc/projecthub/mjrobot/line-follower-robot-pid-control-android-setup-e5113a?ref=user&ref_id=124266&offset=2
- https://create.arduino.cc/projecthub/RONDAGDAG/rocky-rover-robotic-vision-system-pixycam-arduino-101-bd16f0?ref=userrespected&ref_id=124266&offset=1
- https://create.arduino.cc/projecthub/Yogeshmodi/sketch-it-cnc-plotter-95019d?ref=platform&ref_id=424_trending_&offset=22
- Inteligencia artificial y Arduino: <http://www.akrobotnerd.com/robotics/nanomouse>
- ROS y Arduino: <https://www.youtube.com/watch?v=s9YVfRsXvy4> ,
<https://www.youtube.com/watch?v=FUfFj5tcSuE>
http://wiki.ros.org/roscserial_arduino/Tutorials/Arduino%20IDE%20Setup



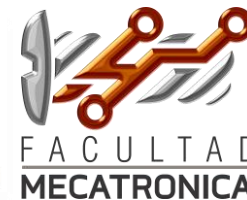
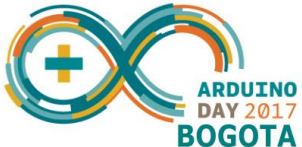
15. Construir un dron

- <https://aprendiendoarduino.wordpress.com/tag/drones/>
- <http://academica-e.unavarra.es/bitstream/handle/2454/19208/TFG%20Jose%20Etxeberria.pdf?sequence=1>



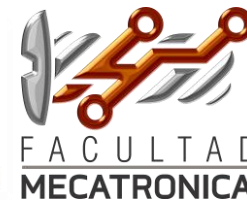
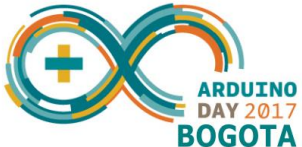
16. Comunicar un Arduino con una Raspberry

- <https://geekytheory.com/arduino-raspberry-pi-raspduino>



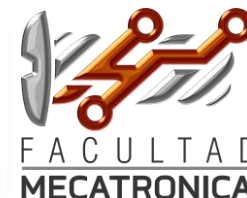
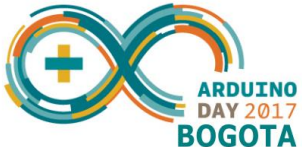
- **17. Estación Monitoreo de agua**

- https://www.hackster.io/chanhj/water-quality-monitoring-system-ddcb43?ref=tag&ref_id=internet%20of%20things&offset=7



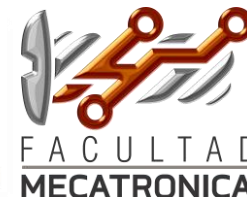
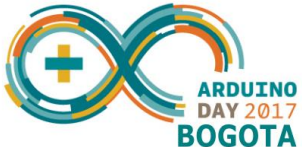
18. Detectar nivel de un líquido

- https://create.arduino.cc/projecthub/team-protocentral/non-contact-capacitive-liquid-level-sensing-using-fdc1004-9333c7?ref=platform&ref_id=424_trending_offset=29
- <https://www.hackster.io/team-protocentral/liquid-level-sensing-using-a-laser-tof-sensor-d04232>



19. Brazo robótico

- <http://www.instructables.com/id/ROBOTIC-ARM-Arduino-Controlled/>
- <http://www.instructables.com/id/An-Arduino-powered-4-axis-parallel-mechanism-robot/>
- <http://lifehacker.com/build-a-kickass-robot-arm-the-perfect-arduino-project-1700643747>
- <https://create.arduino.cc/projecthub/mjrobot/local-and-remote-programmable-robotic-arm-f6ba98>

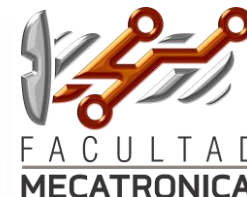
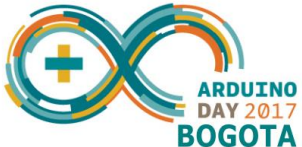


20. Cerradura inteligente con inteligencia o visión artificial

- https://create.arduino.cc/projecthub/dasdata/dascognitiveservices-c2d991?ref=tag&ref_id=artificial%20intelligence&offset=0
- https://create.arduino.cc/projecthub/AdamMiltonBarker/tia-weak-artificial-intelligence-iot-assistant-e440cf?ref=tag&ref_id=ai&offset=0

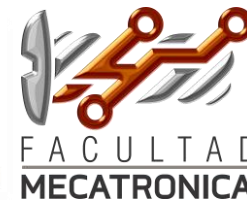
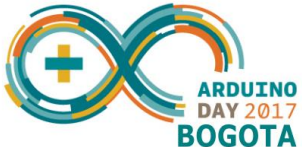
21. Construir un invernadero inteligente

- <https://create.arduino.cc/projecthub/mjrobot/ardufarmbot-part-2-remote-station-an-iot-implementation-6ccc29#widget-comments>
- <https://hackaday.io/project/2552-farmbot-open-source-cnc-farming>
- <https://blog.arduino.cc/2016/09/01/sorting-cucumbers-using-ai-raspberry-pi-arduino/>



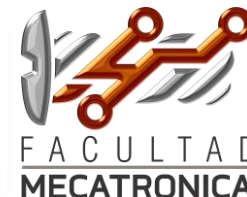
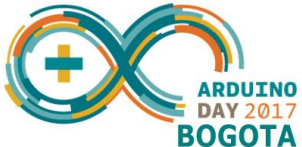
22. Display Braille

- <https://hackaday.io/project/10849-refreshable-braille-display>
- <http://www.angadmakes.com/my-portfolio/virtual-brailer>



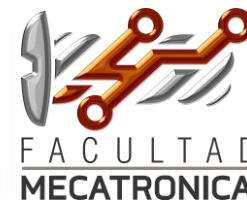
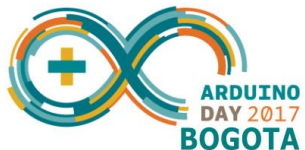
23. Construir un microcomputador o consola de videojuegos con componentes de reciente tecnología

- <https://hackaday.io/project/20011-altair-8800-front-panel-arduino-shield>
- https://create.arduino.cc/projecthub/david-hansel/arduino-altair-8800-simulator-3594a6?ref=platform&ref_id=424_trending_offset=26
- https://www.youtube.com/watch?v=Hjdj14C_jAI
- <https://www.youtube.com/watch?v=ycrIUQhm9pg&t=16s>
- <http://vilaca.eu/handheld-arduino-color-console/>
- <https://www.youtube.com/watch?v=jPU4iv378ig>
- <http://howtomechatronics.com/projects/arduino-game-project-replica-of-flappy-bird-for-arduino-on-a-tft-touch-screen/>
- <https://www.youtube.com/watch?v=0ouMTW6WAdo>
- <https://www.youtube.com/watch?v=2HdZr6m4QdU>



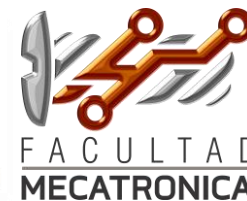
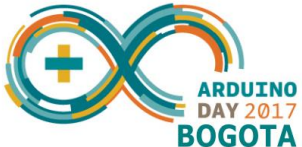
24. Máquina seleccionadora de dulces

- <https://hackaday.io/project/7579-3d-printed-skittles-sorting-machine>



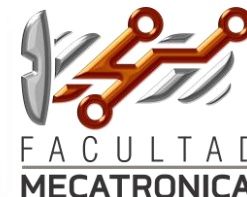
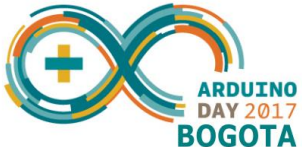
25. Dispensador de alimento para perros

- <http://www.thingiverse.com/thing:990222>



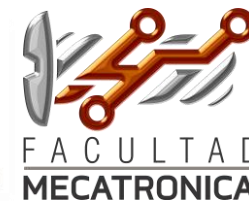
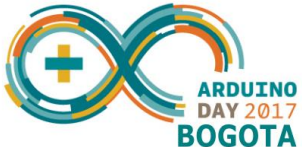
26. Controlar un mundo virtual con Arduino

- <http://linuxforanengineer.blogspot.com.co/p/me.html>,
<https://www.youtube.com/watch?v=RaFOTMcs6-I>
- <http://robologs.net/2016/08/14/tutorial-de-realidad-virtual-con-arduino-y-blender-parte-1/#comment-2416>



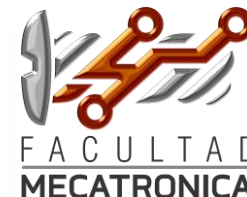
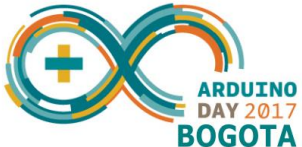
27. Construir una plantilla de presión plantar de pies

- <http://learn.parallax.com/educators/inspiration/arduino-based-foot-neuropathy-analyzer>



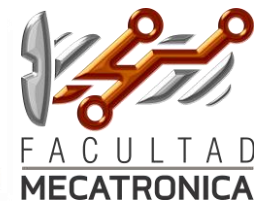
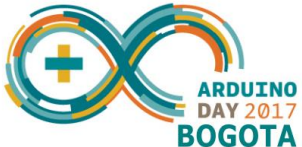
28. Programar un Arduino con otros lenguajes diferentes

- Scratch for Arduino: http://s4a.cat/index_es.html , <http://www.prometec.net/scratch/>
- Visuino: <https://www.visuino.com/support>
- AVR GCC Toolchain: <http://www.tldp.org/HOWTO/Avr-Microcontrollers-in-Linux-Howto/x207.html>
- Kittenblock: <http://kittenbot.cc/kittenblock/>
- Blockly: <https://developers.google.com/blockly/>
- Atmel Studio (solución no libre o código abierto)
<http://www.atmel.com/tools/ATMELSTUDIO.aspx>



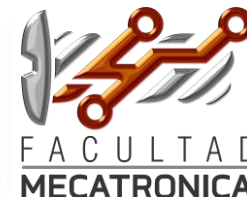
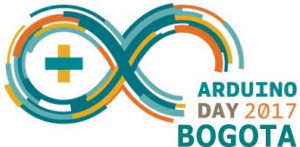
Bono: Construir un espectrómetro usando una Raspberry Pi

- <https://hackaday.io/project/1279-ramanpi-raman-spectrometer>



Referencias Adicionales

- <http://www.naylampmechatronics.com/content/6-tutoriales-y-proyectos-con-arduino>
- <http://robologs.net/>
- <http://www.prometec.net/>
- <https://www.hackster.io>
- <https://www.thingiverse.com/>
- <http://www.instructables.com>
- <https://create.arduino.cc/projecthub>
- <https://hackaday.io>
- <https://learn.sparkfun.com/tutorials/tags/projects>
- <https://www.youtube.com/user/thebenheckshow/featured>
- <http://rztronics.com/arduino-projects/>
- Top 10 Arduino Projects: <https://www.youtube.com/watch?v=eJg3yuAAawA>
- Top 10 Arduino Robotics Projects: <https://www.youtube.com/watch?v=NZ6V63u-D8>



¿Por dónde Empezar?

- <http://aprender.tdrobotica.co/cursos/guia-arduino/>
- <http://www.prometec.net/curso-kit-inicio/>
- <http://www.jeremyblum.com/portfolio/arduino-tutorial-series/>
- <https://learn.adafruit.com/category/learn-arduino>
- <https://learn.sparkfun.com/resources>
- <https://learn.sparkfun.com/tutorials>
- <http://elprofegarcia.com/> , <https://www.youtube.com/channel/UCc-vG493VqpLmL5gbnCvU4A>
- <https://www.youtube.com/channel/UCUJ6BMwZFHTnBozdGONtlhA>
- <https://www.arduino.cc/en/Guide/HomePage>

Libros Arduino:

- Arduino : curso práctico de formación. Óscar Torrente Artero. Ed. Alfaomega, 2013.
- Sistemas integrados con Arduino / José Rafael Lajara Vizcaíno, José Pelegri Sebastiá. Ed. Alfaomega, 2014.
- Getting Started with Arduino. Massimo Banzi, Michael Shiloh Publisher: Maker Media, Inc. 2014

