MATLAB
MATLAB is the high-level language and interactive environment used by millions of engineers and scientists worldwide. It lets you explore and visualize ideas and collaborate across disciplines including signal and image processing, communications, control systems, and computational finance.

Homepage Address: http://www.mathworks.com/products/matlab/

Simulink Real-Time Workshop
Real-Time Workshop® complements Simulink® and Stateflow® by providing automatic C code generation directly from Simulink models. Real-Time Workshop supports the execution of dynamic system models on a wide range of computer platforms, including real-time hardware, to allow real-time simulation, rapid prototyping, and hardware-in-the-loop simulation of embedded real-time systems. With Real-Time Workshop, you can quickly generate C code for discrete-time and hybrid systems, including systems containing triggered and enabled subsystems. You can also generate code for finite state machines modeled in Stateflow using Real-Time Workshop and Stateflow Coder.

Homepage Address: http://www.mathworks.com/products/simulink/
- **PLC**
  A programmable logic controller, PLC, or programmable controller is a digital computer used for automation of typically industrial electromechanical processes, such as control of machinery on factory assembly lines, amusement rides, or light fixtures. PLCs are used in many machines, in many industries.

- **Industrial PID**
  Proportional-Integral-Derivative (PID) controllers are used in most automatic process control applications in industry today to regulate flow, temperature, pressure, level, and many other industrial process variables.
- **MPLAB**
  MPLAB® X IDE is a software program that runs on a PC (Windows®, Mac OS®, Linux®) to develop applications for Microchip microcontrollers and digital signal controllers. It is called an Integrated Development Environment (IDE), because it provides a single integrated "environment" to develop code for embedded microcontrollers.


- **ROBOTC**
  ROBOTC is a cross-robotics-platform programming language for popular educational robotics systems. It is the premiere robotics programming language for educational robotics and competitions. ROBOTC is a C-Based Programming Language with an Easy-to-Use Development Environment.

  **Homepage Address:** [http://www.robotc.net/](http://www.robotc.net/)
**VEX Robotic**
The VEX Robotics Design System is a robotic kit intended to introduce students as well as adults to the world of robotics. The VEX Robotics Design System is centered on the VEX Clawbot Kit which is sold in the Dual Control Starter Kit. This kit comes with four electric motors, 4 wheels, gears, and structural parts. Additional sensors (ultrasonic, line tracking, optical shaft encoders, bumper switches, limit switches, light sensors integrated motor encoder modules, gyroscopes, accelerometers, and potentiometers), wheels (regular, omni-directional, and "mecanum"), tank treads, motors, servos, gears, chain and sprocket sets, partner joysticks, programming software (EasyC, ROBOTC, MPLAB), extra metal, pneumatics, and rechargeable battery power packs can all be purchased separately.

**Homepage Address:** [http://www.vexrobotics.com/](http://www.vexrobotics.com/)

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**NAO Robots**
NAO is a 58-cm tall humanoid robot. He is small, cute and round. You can't help but love him! NAO is intended to be a friendly companion around the house. He moves, recognizes you, hears you and even talks to you. Since his birth in 2006, he has been constantly evolving to please, amuse, understand and love you. In short, to one day become your friend.

- **EAGLE**
  EAGLE provides quality PCB design software with the features that get the job done. For over 20 years, EAGLE has been satisfying design engineers around the world, by offering the same core functionality as expensive commercial software, at the fraction of the cost.
  **Homepage Address:** [http://www.cadsoftusa.com/eagle-pcb-design-software/about-eagle/](http://www.cadsoftusa.com/eagle-pcb-design-software/about-eagle/)

- **AutoCAD**
  AutoCAD is a commercial software application for 2D and 3D computer-aided design (CAD) and drafting available since 1982 as a desktop application and since 2010 as a mobile web and cloud-based app marketed as AutoCAD 360.
  **Homepage Address:** [http://www.autodesk.com/products/autocad/](http://www.autodesk.com/products/autocad/)
- **ORCAD (PSPICE)**
  ORCAD is a proprietary software tool suite used primarily for electronic design automation (EDA). The software is used mainly by electronic design engineers and electronic technicians to create electronic schematics and electronic prints for manufacturing printed circuit boards.
  
  **Homepage Address:** [http://www.cadence.com/products/orcad/Pages/new_orcad.aspx](http://www.cadence.com/products/orcad/Pages/new_orcad.aspx)

- **Network simulator ns-2**
  Ns is a discrete event simulator targeted at networking research. Ns provides substantial support for simulation of TCP, routing, and multicast protocols over wired and wireless (local and satellite) networks. Ns began as a variant of the REAL network simulator in 1989 and has evolved substantially over the past few years.
  
  **Homepage Address:** [http://www.isi.edu/nsnam/ns/](http://www.isi.edu/nsnam/ns/)
- **Quartus II**
  Altera Quartus II is a programmable logic device design software produced by Altera. Quartus II enables analysis and synthesis of HDL designs, which enables the developer to compile their designs, perform timing analysis, examine RTL diagrams, simulate a design's reaction to different stimuli, and configure the target device with the programmer. Quartus includes an implementation of VHDL and Verilog for hardware description, visual editing of logic circuits, and vector waveform simulation.

  **Homepage Address:** [https://www.altera.com/products/fpga/overview.html](https://www.altera.com/products/fpga/overview.html)

- **GNU Radio**
  GNU Radio is a free & open-source software development toolkit that provides signal processing blocks to implement software radios. It can be used with readily-available low-cost external RF hardware to create software-defined radios, or without hardware in a simulation-like environment. It is widely used in hobbyist, academic and commercial environments to support both wireless communications research and real-world radio systems.

  **Homepage Address:** [http://gnuradio.org/redmine/projects/gnuradio/wiki](http://gnuradio.org/redmine/projects/gnuradio/wiki)
- **LabView**
  LabVIEW (short for Laboratory Virtual Instrument Engineering Workbench) is a system-design platform and development environment for a visual programming language from National Instruments.
  
  **Homepage Address:** [http://www.ni.com/labview/](http://www.ni.com/labview/)

- **Agilent CXA Signal Analyzer N9000A**
  The CXA signal analyzer, the leading low-cost tool for essential signal characterization, covers the basics of general purpose signal analysis, while providing crucial functionality. Upgradability with measurement applications and software allow you to work with the CXA in more than 75 different modulation formats. The CXA is also an excellent teaching tool for RF and microwave RF and microwave signal analysis, from basic circuit characterization to advanced signal analysis.
  
**USRPs (Universal Software Radio Peripheral)**
The USRP platform is designed for RF applications from DC to 6 GHz, and provides options for GPS Disciplined Synchronization, MIMO configurations and embedded systems. Example application areas include white space radios, mobile phones, public safety radio, land mobiles, broadcast TV, FM radio, satellite navigation and amateur radio bands.

**Homepage Address:** [http://www.ettus.com](http://www.ettus.com)

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**BioRadio from Great Lakes Neurotechnologies**
The BioRadio™ is a wearable biomedical device with programmable channels for recording and transmitting combinations of human physiological signals. Easy to set up and operate, the wearable wireless physiology monitor can stream data to a computer via Bluetooth or save it to on-board memory for truly mobile monitoring.

**Homepage Address:** [https://glneurotech.com/bioradio/bioradio-wireless-physiological-monitor/](https://glneurotech.com/bioradio/bioradio-wireless-physiological-monitor/)
- **DE0 from Altera**
  The DE0 Development and Education board is designed in a compact size with all the essential tools for novice users to gain knowledge in areas of digital logic, computer organization and FPGAs. It is equipped with Altera Cyclone III 3C16 FPGA device, which offers 15,408 LEs. The board provides 346 user I/O pins, and is loaded with a rich set of features that makes it suitable to be used for advanced university and college courses, as well as the development of sophisticated digital systems.
  

- **Sputtering System**
  Sputtering is a process whereby atoms are ejected from a solid target material due to bombardment of the target by energetic particles. It only happens when the kinetic energy of the incoming particles is much higher than conventional thermal energies ($\gg 1$ eV). This process can lead, during prolonged ion or plasma bombardment of a material, to significant erosion of materials, and can thus be harmful. On the other hand, it is commonly utilized for thin-film deposition, etching and analytical techniques.

A commercial AJA Orion sputtering system
- **ELISA**
The enzyme-linked immunosorbent assay (ELISA) is a test that uses antibodies and color change to identify a substance.

- **Photospectrometer**
Using this instrument, the distribution of the spectral intensity detected by the spectrometer is analyzed photoelectrically. It is applied to measurement of the concentration of DNA and/or protein in the solution sample.