

Chapter number	Software required (With version)	Hardware specifications	OS required
1	<ul style="list-style-type: none"> • Arduino core for ESP8266 (install latest from Boards Manager) • Arduino IDE 1.8.x • PuTTY 0.7 	<ul style="list-style-type: none"> • Original ESP8266 • USB to the TTL console cable • LED • 1 kilo ohm resistor • AA batteries and holder 	Windows
2	<ul style="list-style-type: none"> • Arduino core for ESP8266 • Arduino IDE 1.8.x • Blynk (download latest from Google Play Store or Apple App Store) • TB6612FND Arduino library (https://github.com/sparkfun/SparkFun_TB6612FNG_Arduino_Library) 	<ul style="list-style-type: none"> • Mini three-layer round robot chassis kit • Original ESP8266 • Arduino UNO R3 • Logic Level Converter - Bi-Directional • SparkFun Motor Driver - Dual TB6612FNG (1 A) • 9V battery holder with switch & 	Windows Android/ iOS

		5.5mm/2.1mm plug <ul style="list-style-type: none"> Alkaline 9V Battery 	
3	<ul style="list-style-type: none"> Arduino core for ESP8266 Arduino IDE 1.8.x Blynk (download latest from Google Play Store or Apple App Store) TB6612FND Arduino library (https://github.com/sparkfun/SparkFun_TB6612FNG_Arduino_Library) 	<ul style="list-style-type: none"> Mini three-layer round robot chassis kit Wheel encoder kit Original ESP8266 Arduino UNO R3 Logic Level Converter - Bi-Directional SparkFun Motor Driver - Dual TB6612FNG (1 A) 9V battery holder with switch & 5.5mm/2.1mm plug Alkaline 9V Battery 	Windows Android/ iOS
4	<ul style="list-style-type: none"> Arduino core for ESP8266 Arduino IDE 1.8.x Blynk (download latest from Google Play Store or Apple App Store) Adafruit Motor Shield V2 library 	<ul style="list-style-type: none"> Mini 3-Layer Round Robot Chassis 	Windows Android

	<p>(https://github.com/ladyada/Adafruit_Motor_Shield_V2_Library/archive/master.zip)</p>	<p>Kit—2WD with DC Motors</p> <ul style="list-style-type: none"> • Assembled Adafruit Feather HUZZAH with ESP8266 WiFi with Headers • DC Motor + Stepper FeatherWi ng Add-on For All Feather Boards • Feather Stacking Headers: 12-pin and 16-pin Female Headers • FeatherWi ng Doubler - Prototypin g Add-on For All Feather Boards • Feather Header Kit - 12-pin and 16-pin Female Header 	d/ iOS
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		<p>Set</p> <ul style="list-style-type: none">• Lithium Ion Battery - 3.7v 2000mAh• AA Battery Holder with On/Off Switch• Button Hex Machine Screw - M4 thread - 8mm long -(one pack includes 50)• Brass M2.5 Standoffs for Pi HATs - Black• Alkaline AA batteries (LR6)• Adafruit Pocket Screwdriver - Black• Piece of Double-Stick Foam Tape	
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5	<ul style="list-style-type: none"> • Arduino core for ESP8266 • Arduino IDE 1.8.x • Adafruit Motor Shield V2 library (https://github.com/ladyada/Adafruit_Motor_Shield_V2_Library/archive/master.zip) 	<ul style="list-style-type: none"> • Zumo Chassis kit(no motors) • Line follower array • 100:1 Micro Metal Gearmotor HP 6V • Basic Sumo Blade for Zumo chassis (optional) • Rechargeable NiMH AA battery: 1.2 V, 2200 mAh, 1 cell • FeatherWing Doubler - Prototyping Add-on for all Feather Boards • Assembled Feather HUZZAH w/ ESP8266 Wi-Fi with stacking headers 	Windows Android/ iOS
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		<ul style="list-style-type: none"> • DC Motor + Stepper FeatherWi ng Add-on for all Feather Boards • Lithium Ion Battery - 3.7V 2000mAh • Extra-long break-away 0.1" 16-pin strip male header (5 pieces) • Ceramic capacitor 3-pack 0.1uF 100V • Little rubber bumper feet - Pack of 4 	
6	<ul style="list-style-type: none"> • Arduino core for ESP8266 • Arduino IDE 1.8.x • Blynk (download latest from Google Play Store or Apple App Store) • Adafruit Motor Shield V2 library (https://github.com/ladyada/Adafruit_Motor_Shield_V2_Library/archive/master.zip) 	<ul style="list-style-type: none"> • Romi chassis kit • Adafruit Feather Huzzah ESP8266 • DC Motor + Stepper FeatherWi ng Add-on • FeatherWi 	<p>Windows</p> <p>Android/ iOS</p>

		<ul style="list-style-type: none"> • ng Doubler • Extra-long break-away 0.1" 16-pin strip male header • Push buttons • 2000mAh 3.7 Li-Poly battery • Breadboard • Rechargeable NiMH AA Battery—1.2 V, 2200 mAh 	
7	<ul style="list-style-type: none"> • Arduino core for ESP8266 • Arduino IDE 1.8.x • Blynk (download latest from Google Play Store or Apple App Store) • Adafruit Motor Shield V2 library (https://github.com/ladyada/Adafruit_Motor_Shield_V2_Library/archive/master.zip) 	<ul style="list-style-type: none"> • Mini Robot Rover Chassis Kit - 2WD with DC Motors • 1 x Parallel Gripper Kit A - Channel Mount • 1 x Servo - Hitec HS-422 (Standard Size) • 1 x Arduino 	

		<p>Uno R3 (Atmega328 - assembled)</p> <ul style="list-style-type: none">• 1 x Adafruit Motor/Stepper/Servo Shield for Arduino v2 Kit - v2.3• 1 x 9V battery holder with switch and 5.5mm/2.1mm plug• 1 x Alkaline 9V Battery• 1 x 4 x AA Battery Holder with On/Off Switch• 1 x	
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		Alkaline AA batteries (LR6) - 4 pack)	
8	<ul style="list-style-type: none"> • Arduino core for ESP8266 • Arduino IDE 1.8.x • Adafruit Motor Shield V2 library (https://github.com/ladyada/Adafruit_Motor_Shield_V2_Library/archive/master.zip) • ArduCAM (https://github.com/ArduCAM/ArduCAM_ESP8266_UNO) • UTFT4ArduCAM_SPI (https://github.com/ArduCAM/ArduCAM_ESP8266_UNO) • ESP8266-Websocket (https://github.com/ArduCAM/ArduCAM_ESP8266_UNO) 	<ul style="list-style-type: none"> • ArduCAM Mini Camera Module Shield w/ 2 MP OV2640 for Arduino • FeatherWing Doubler - Prototyping Add-on For All Feather Boards • Adafruit Feather HUZZAH with ESP8266 WiFi • DC Motor + Stepper FeatherWing Add-on For All Feather Boards • Lithium Ion Battery - 3.7v 2000mAh 	Windows

		<ul style="list-style-type: none">• Rechargeable NiMH AA Battery: 1.2V, 2200 mAh, 1 cell• Tiny breadboard	
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