

VEHICLE BOM						
NAME	SPECIFICATIONS	COMMENTS	LINK	RATE	QTY	PRICE
Chassis						
Acrylic cutouts	3 mm thick acrylic cutouts (laser cut)		<a href="#">GitHub</a>	NA	21	NA
Brass standoffs	M3×60 (M-F) standoffs		<a href="#">Amazon</a>	\$ 1.29	4	\$ 12.99
Brass standoffs	M3×40 (F-F) standoffs		<a href="#">Amazon</a>	\$ 0.99	10	\$ 9.99
Bolts	M2X10 bolts		<a href="#">Amazon</a>	\$ 0.09	36	\$ 7.99
Bolts	M2.5X8 bolts		<a href="#">Amazon</a>	\$ 0.09	4	\$ 10.19
Bolts	M2.5X25 bolts		<a href="#">Amazon</a>	\$ 0.20	8	\$ 8.99
Bolts	M3X6 bolts		<a href="#">Amazon</a>	\$ 0.07	5	\$ 7.49
Bolts	M3X8 bolts		<a href="#">Amazon</a>	\$ 0.09	20	\$ 8.99
Bolts	M3X10 bolts		<a href="#">Amazon</a>	\$ 0.08	6	\$ 8.99
Bolts	M3X14 bolts		<a href="#">Amazon</a>	\$ 0.09	6	\$ 8.49
Bolts	M3X25 bolts		<a href="#">Amazon</a>	\$ 0.11	5	\$ 9.99
Bolts	M4X10 bolts		<a href="#">Amazon</a>	\$ 0.10	4	\$ 9.49
Nuts	M2 nuts		<a href="#">Amazon</a>	\$ 0.09	56	\$ 8.49
Nuts	M2.5 nuts		<a href="#">Amazon</a>	\$ 0.04	8	\$ 4.51
Nuts	M3 nuts		<a href="#">Amazon</a>	\$ 0.06	18	\$ 6.06
Nuts	M4 nuts		<a href="#">Amazon</a>	\$ 0.08	4	\$ 8.06
Plastic Spacer	M4X5 spacers	Optional for motor driver	NA	NA	4	NA
Servo horn	25T horn for MG996R servo motor		<a href="#">Amazon</a>	\$ 1.00	1	\$ 9.99
TT motor gearboxes	100 RPM TT motor gearbox	Optional for 2WD configuration	NA	NA	2	NA
Wheels	65 mm rubber tyre wheels		<a href="#">Amazon</a>	\$ 0.99	4	\$ 3.99
Strap belt	9" LiPo battery strap belt	Optional to strap-on LiPo battery	<a href="#">Amazon</a>	\$ 1.59	1	\$ 7.99
Power Electronics						
LiPo battery	11.1V 5200mAh 3S 40C/80C LiPo		<a href="#">Amazon</a>	\$ 37.50	1	\$ 74.99
LiPo charger	2S-3S balance LiPo battery charger		<a href="#">Amazon</a>	\$ 9.68	1	\$ 9.68
Voltage checker	1S-8S LiPo battery voltage checker		<a href="#">Amazon</a>	\$ 5.49	1	\$ 5.49
Master switch	12V M12 ring light push button (blue)		<a href="#">Amazon</a>	\$ 2.33	1	\$ 13.98
Buck converter	12A DC-DC CC CV buck converter		<a href="#">Amazon</a>	\$ 10.58	1	\$ 10.58
Motor driver	20A motor driver with braking		<a href="#">Robokits</a>	\$ 7.80	1	\$ 7.80
Motor driver	12V 2A L298N motor driver	Alternative motor driver	<a href="#">Amazon</a>	\$ 6.99	1	\$ 6.99
Prototype board	6x8x cm universal prototype board		<a href="#">Amazon</a>	\$ 1.49	1	\$ 14.90
PVC wires	30' 24 AWG PVC wire	Red and black color	<a href="#">Amazon</a>	\$ 7.98	1	\$ 7.98
Battery connector	XT60 connector (male)		<a href="#">Amazon</a>	\$ 1.49	1	\$ 8.99
DC jack	2.5×5.5 mm DC power jack (male)	Required to power Jetson Nano	<a href="#">DigiKey</a>	\$ 4.97	1	\$ 4.97
Screw terminal	6 pin 5.08 mm pitch screw terminal block		<a href="#">Amazon</a>	\$ 0.15	2	\$ 8.98
Header Pins	2.54 mm male and female header pins		<a href="#">Amazon</a>	\$ 11.99	1	\$ 11.99
Header Wires	M-M, F-F, M-F header wires		<a href="#">Amazon</a>	\$ 6.98	4	\$ 27.92
Wire Sleeve	Spiral wire sleeve		<a href="#">Amazon</a>	\$ 6.49	1	\$ 6.49
Cooling fan	5V DC 4020 cooling fan	Optional to cool Jetson Nano	<a href="#">DFRobot</a>	\$ 6.90	1	\$ 6.90
Sensors						
Throttle sensor	Virtual sensory feedback (firmware)	Virtual (firmware)	NA	NA	1	NA
Steering sensor	Virtual sensory feedback (firmware)	Virtual (firmware)	NA	NA	1	NA
Incremental encoders	16 PPR 2-channel hall-effect magnetic encoder	Pre-installed on the motors	NA	NA	2	NA
IPS	AprilTag marker	Sticker print	<a href="#">GitHub</a>	NA	1	NA
IMU	MPU9250 9-axis IMU		<a href="#">Amazon</a>	\$ 15.99	1	\$ 15.99
LIDAR	RPLIDAR A1M8 (with mini-USB adapter)		<a href="#">Amazon</a>	\$ 99.00	1	\$ 99.00
Cameras	8 MP Raspberry Pi Camera v2.1 (with CSI adapter)		<a href="#">SparkFun</a>	\$ 25.00	2	\$ 50.00
Computational Resources						
Jetson Nano	NVIDIA Jetson Nano Developer Kit - B01		<a href="#">Amazon</a>	\$ 149.00	1	\$ 149.00
Arduino Nano	Arduino Nano Rev.3 development board		<a href="#">Amazon</a>	\$ 6.66	1	\$ 19.99
Communication Systems						
LIDAR cable	USB Type-A to Micro-USB Type-B cable	Comes with LIDAR	NA	NA	1	NA
Camera cables	Camera serial interface (CSI) cable	Comes with camera	NA	NA	1	NA
MCU cable	USB Type-A to Mini-USB Type-B cable	Comes with Arduino	NA	NA	2	NA
Wi-Fi adapter	TP-Link TL-WN725N USB Wi-Fi adapter	Required if Jetson Nano does not have a WiFi card	<a href="#">Amazon</a>	\$ 9.99	1	\$ 9.99
Actuators						
Drive actuators	6V 120 RPM 120:1 TT I motor (with encoders)	I-configuration better for RW	<a href="#">DFRobot</a>	\$ 7.40	2	\$ 29.60
Drive actuators	6V 120 RPM 120:1 TT L motor (with encoders)	L-configuration better for FW	<a href="#">DFRobot</a>	\$ 7.99	2	\$ 31.96
Steering actuator	MG996R servo motor	MG-configuration better for RW	<a href="#">Amazon</a>	\$ 7.49	1	\$ 14.99
Lights and Indicators						
LEDs	5 mm red, white and amber LEDs	Pre-wired LEDs (pack of 120)	<a href="#">Amazon</a>	\$ 0.11	1	\$ 12.99
					TOTAL	\$ 814.82

INFRASTRUCTURE BOM						
NAME	SPECIFICATIONS	COMMENTS	LINK	RATE	QTY	PRICE
Obstruction Modules						
Construction box	3 ply boxes (4×4×12 inches)	Pack of 25	<a href="#">Amazon</a>	\$ 28.91	4	\$ 115.64
Surveillance Elements						
Camera	Smartphone camera		NA	NA	1	NA
Camera stand	Desk Mount Clamp Gooseneck Stand		<a href="#">Amazon</a>	\$ 10.99	1	\$ 10.99
Calibration grid	A0 camera calibration grid	A0 laser print	<a href="#">GitHub</a>	NA	1	NA
Preconfigured Maps						
Driving School	10×5 ft Driving School map	10×5 ft flex printing	<a href="#">GitHub</a>	NA	1	NA
					TOTAL	\$ 126.63