| **Part** | **Quantity** | **Cost Per Unit** | **Vendor/Link** | **Notes** |
| --- | --- | --- | --- | --- |
| Redcat Racing Blackout SC 1/10 Scale Electric Short Course Truck | 1 | $169.99 | <https://www.amazon.com/Redcat-Racing-Blackout-Waterproof-Electronics/dp/B00VRNR9KS/> |  |
| Servo 2Kg, Metal Arm | 1 | $16.66 | <https://www.amazon.com/gp/product/B01MU7TQV8> |  |
| Sensorless Brushless Motor | 1 | $30.99 | <https://www.amazon.com/gp/product/B08J25QYH6/> | Sensored BLDC motor also available for $20 more. Alternatively, can buy chassis with BLDC already installed (Redcat Blacout SC Pro version) |
| VESC | 1 | $104.99 | <https://www.amazon.com/HGLRC-FLIPSKY-SK8-ESC-Electric-Skateboard-EScooter/dp/B07GFB55NV> |  |
| 4mm Bullet Connectors | 1 | $8.99 | <https://www.amazon.com/gp/product/B07CSQH2QC> | This only needs to be purchased if the VESC does not already have 4mm bullet connectors installed on its motor wires. Note that installation will require soldering. |
| Heat Shrink | 1 | $2.96 | <https://www.digikey.com/en/products/detail/alpha-wire/F221V1-4-BK100/3718550> | (Can purchase additional colors if desired) |
| Solderless Wire Connector | 1 | $8.69 | <https://www.amazon.com/Connectors-Insulated-Waterproof-Automotive-Electrical/dp/B07G4DVT67> |  |
| 3 pin Through Hole Male Header | 1 | $0.19 | <https://www.digikey.com/products/en?keywords=952-2263-nd> |  |
| Jetson Nano | 1 | $99 | <https://www.sparkfun.com/products/16271>  <https://www.amazon.com/Seeed-Studio-NVIDIA-Jetson-Developer/dp/B07SGBHDCZ/> |  |
| Micro SD Card | 1 | $28.95 | <https://www.amazon.com/gp/product/B06XWZWYVP> |  |
| WiFi & Bluetooth Card | 1 | $20.98 | <https://www.amazon.com/gp/product/B01MZA1AB2> |  |
| WiFi Antennae | 1 | $7.99 | <https://www.amazon.com/Pair-53cm-20-86in-IPEX4-Antennas/dp/B07K68NHVH> |  |
| Power Barrel Connector 5.5x2.1 mm | 1 | $4.30 | https://www.digikey.com/en/products/detail/tensility-international-corp/10-02224/6412266 |  |
| Pin Jumper | 1 | $0.10 | https://www.digikey.com/product-detail/en/sullins-connector-solutions/STC02SYAN/S9000-ND/76372 |  |
| Buck Converter | 1 | $9.99 | <https://www.amazon.com/gp/product/B06XRDV49T> |  |
| Battery Connector 4mm | 1 | $9.99 | <https://www.amazon.com/OliRC-Bullet-Banana-Connector-Adapter/dp/B07T6J317B>  <https://www.amazon.com/gp/product/B01E3999FA> |  |
| 5000mAH NiMH battery | 1 | $17.99 | <https://www.amazon.com/Flylinktech-5000mAh-NiMH-Rechargeable-Associated/dp/B00WMC4WBM> |  |
| Tamiya Battery Connector | 1 | $8.80 | <https://www.amazon.com/gp/product/B0746GQF56> |  |
| Velcro | 1 | $6.01 | <https://www.amazon.com/VELCRO-Brand-Fasteners-Perfect-General/dp/B000TGSPV6> | Use to hold battery in place |
| Bluetooth Playstation 4 Controller | 1 | $29.99 | <https://www.amazon.com/YCCTEAM-Controller-Compatible-Upgraded-playstation-4/dp/B0872MNQVD>  <https://www.amazon.com/gp/product/B01LWVX2RG> |  |
| Zip Ties | 1 | $4.99 | <https://www.amazon.com/gp/product/B01018DB2E> |  |
| Medium Strength Thread Locker | 1 | $5.97 | https://www.amazon.com/dp/B000I1RSNS/ |  |
| Super Glue | 1 | $3.97 | <https://www.amazon.com/dp/B00ELV2D0Y>  <https://www.amazon.com/Loctite-Ultra-Control-4-Gram-1363589/dp/B003Y49R7G> |  |
| Electrical Tape | 1 | $5.60 | <https://www.amazon.com/dp/B001ULCB1O/>  <https://www.amazon.com/Scotch-Super-Vinyl-Electrical-Tape/dp/B00004WCCL> |  |
| M3 Flathead Screw 40mm | 1 | $3.83 / pack of 25 | <https://www.mcmaster.com/92125a150> |  |
| M3 Nylon Washers | 1 | $3.60 / pack of 100 | <https://www.mcmaster.com/95610a530> |  |
| M2.5 Pan Head Screws 10mm | 1 | $4.66 / pack of 100 | <https://www.mcmaster.com/92005a071> |  |
| M2.5 Flat Head Screws 10mm | 1 | $4.19 / pack of 25 | <https://www.mcmaster.com/92010a020> |  |
| M2.5 Hex Nut | 1 | $2.22 / pack of 100 | <https://www.mcmaster.com/90591a270> |  |
|  |  |  |  |  |
| Power Supply (5V 4Amp) | 1 | $16.49 | <https://www.amazon.com/ALITOVE-Converter-5-5x2-1mm-100V-240V-Security/dp/B078RT3ZPS> | Power the Jetson Nano without using battery if desired |
| Redcat Racing Fast Charger | 1 | $20.26 | <https://www.amazon.com/gp/product/B015ZQEID8> |  |

**Sensor Options (Only choose one Realsense option)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Part** | **Quantity** | **Cost Per Unit** | **Vendor/Link** | **Notes** |
| YDLidar | 1 | $99 | <https://www.amazon.com/dp/B07DBYHJVQ/>  <https://www.robotshop.com/en/ydlidar-x4-360-laser-scanner.html> |  |
| USB Micro Splitter 1ft | 1 | $6.00 | <https://www.amazon.com/dp/B083JZXZYH/>  <https://www.amazon.com/gp/product/B0179OXY9I> |  |
| USB Micro to USB C Adapter | 1 | $6.99 | <https://www.amazon.com/Adapter-Aluminum-Connector-Charging-Compatible/dp/B07G54XXZZ> |  |
|  |  |  |  |  |
| Realsense D435(i) | 1 | $300-$350 | D435i  <https://store.intelrealsense.com/buy-intel-realsense-depth-camera-d435i.html>  <https://www.digikey.com/en/products/detail/intel-realsense/82635D435IDKMP/14301643>  D435 (no IMU)  <https://www.digikey.com/en/products/detail/intel-realsense/82635AWGDVKPMP/9926003> |  |
| USB 3.0 Type C 1ft | 1 | $12.31 | <https://www.amazon.com/AmazonBasics-Double-Braided-Nylon-Type-C/dp/B07D7SH77V> |  |
| M3 Pan Head Screw 6mm | 1 | $4.34 | <https://www.mcmaster.com/92005A116/> |  |
|  |  |  |  |  |
| Realsense D455 | 1 | $412.50 | <https://store.intelrealsense.com/buy-intel-realsense-depth-camera-d455.html>  <https://www.digikey.com/en/products/detail/intel-realsense/82635DSD455MP/12429609> |  |
| USB 3.0 Type C 1ft | 1 | $12.31 | <https://www.amazon.com/AmazonBasics-Double-Braided-Nylon-Type-C/dp/B07D7SH77V> |  |
| M4 Pan Head Screw 6mm | 1 | $8.21 | <https://www.mcmaster.com/94387A239/> |  |

Optional Items

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Part** | **Quantity** | **Cost Per Unit** | **Vendor/Link** | **Notes** |
|  |  |  |  |  |
| Push Button | 1 | $10.99 | <https://www.vexrobotics.com/276-2159.html> | Detects when the front bumper has made contact with an object |
| Female to Female Jumper Cable | 1 | $1.95 per pack of 20 | <https://www.digikey.com/product-detail/en/sparkfun-electronics/PRT-12796/1568-1513-ND/5993861> |  |
| 1K Ohm Resistor | 1 | $0.10 | <https://www.digikey.com/product-detail/en/stackpole-electronics-inc/CF14JT1K00/CF14JT1K00CT-ND/1830350> |  |
| 1/8” Heat Shrink | 1 | $1.41 | <https://www.digikey.com/product-detail/en/alpha-wire/F221B1-8-BK100/A018B-4-ND/281671>x |  |
| 20mm M2.5 Pan Head Screws | 1 | $5.92 per pack of 100 | <https://www.mcmaster.com/92000a111> |  |