ESP-DevKitC	T _T Seial Number	Part Description	Sub-parts	Category	T _T Quantity	# Unit Cost	# Total Cost	
Male Header pins 3*8 Electronic 3	1	ESP32Breakout Board					2340.57	
Capacitors			ESP-DevKitC	Electronic	1	799	799	
Resistors			Male Header pins 3*8	Electronic	3	60	180	
Male Header pins 1*2 Electronic 1 2.36 2.36 Male Header pins 1*3 Electronic 1 3.54 3.54 3.54 Male Header pins 1*6 Electronic 1 7.08 7.08 7.08 Male Header pins 1*6 Electronic 1 7.08 7.08 7.08 Male Header pins 1*6 Electronic 1 5.9 5.9 5.9 Male Header pins 1*5 Electronic 1 5.9 5.9 5.9 Male Header pins 1*5 Electronic 1 4 4 4 4 7.00 Flore pins 1*5 Electronic 1 84.73 84			Capacitors	Electronic	9	2.5	22.5	
Male Header pins 1*3 Electronic 1 3.54 3.54 Male Header pins 1*6 Electronic 1 7.08 7.08 Male Header pins 1*4 Electronic 6 4.72 28.52 Male Header pins 1*5 Electronic 1 6.9 5.9 Push Button Electronic 1 84.73 84.73 IC TCA9406DCTR Electronic 1 84.73 84.73 IC CA724C64WI-GT3 Electronic 1 36 36 36 Terminal 2 pin Electronic 1 6.99 6.99 IC MY_C2760387 Electronic 1 6.99 6.99 IC MY_C2760387 Electronic 1 132.61 132.61 IC TG1262-3.3VOBTR Electronic 1 132.61 132.61 IC TG1262-3.3VOBTR Electronic 1 133.64 113.64 IC MAX485CSA+ Electronic 1 130 130 130 Berg 2 pin Electronic 1 64.22 64.22 IC SM712 Electronic 1 64.22 64.22 Universal Control Board Electronic 26 1.05 2.73 Resistors (0KQ, 220Q, 330Q, 20kQ) Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 8 General LEDs Electronic 1 8 8 8 Electronic 1 8			Resistors	Electronic	9	1.05	9.45	
Male Header pins 1*6			Male Header pins 1*2	Electronic	1	2.36	2.36	
Male Header pins 1*4 Electronic 6 4.72 28.52 Male Header pins 1*5 Electronic 1 5,9 5,9 5,9 Push Button Electronic 1 4 4 4 IC TCA9406DCTR Electronic 1 84.73 84.73 IC CAT24064WI-GT3 Electronic 1 36 36 36 Terminal 2 pin Electronic 1 699 699 IC MT_C2760387 Electronic 1 699 699 IC NUM7805DL1A-TE1 Electronic 1 132.61 132.61 132.61 132.61 16 10 133.64 113.6			Male Header pins 1*3	Electronic	1	3.54	3.54	
Male Header pins 1*5 Electronic 1 5,9 5,9 Push Button Electronic 1 4 4 IC TCA9406DCTR Electronic 1 84.73 84.73 IC CA724C64WI-GT3 Electronic 1 36 36 Terminal 2 pin Electronic 2 6,01 12.02 IC MT_CC2760387 Electronic 1 699 699 IC NJM7805DL1A-TE1 Electronic 1 132.61 132.61 IC TC1262-3.3VDBTR Electronic 1 133.64 113.64 IC TC1262-3.3VDBTR Electronic 1 133.64 113.64 IC MAX485CSA+ Electronic 1 130 130 130 Berg 2 pin Electronic 1 64.22 64.22 IC SM712 Electronic 1 64.22 64.22 Quinversal Control Board Resistors (0kQ, 220Q, 330Q, 20kQ) Electronic 2 10 2.5 2.5 Capacitors (0.1µF, 0.47µF, 33µF, 47µF, 470µF) Electronic 1 1.97 1.97 WS2812B LEDS Electronic 1 8 8 General LEDS Electronic 6 1.64 9.84			Male Header pins 1*6	Electronic	1	7.08	7.08	
Push Button Electronic 1			Male Header pins 1*4	Electronic	6	4.72	28.52	
IC TCA9406DCTR			Male Header pins 1*5	Electronic	1	5.9	5.9	
IC CAT24C64WI-GT3			Push Button	Electronic	1	4	4	
Terminal 2 pin Electronic 2 6.01 12.02 IC M7_C2760387 Electronic 1 699 699 IC NJM7805DL1A-TE1 Electronic 1 132.61 132.61 IC TC1262-3.3VDBTR Electronic 1 113.64 113.64 IC MAX485CSA+ Electronic 1 130 130 130 Berg 2 pin Electronic 1 6 6 6 IC SM712 Electronic 1 64.22 64.22 Universal Control Board Resistors (0kΩ, 220Ω, 330Ω, 20kΩ) Electronic 26 1.05 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF) Electronic 1 19.7 1.97 WS2812B LEDs Electronic 1 8 8 8 8 General LEDs Electronic 6 1.64 9.84			IC TCA9406DCTR	Electronic	1	84.73	84.73	
IC M7_C2760387 Electronic 1 699			IC CAT24C64WI-GT3	Electronic	1	36	36	
IC NJM7805DL1A-TE1 Electronic 1 132.61 132.61 132.61 IC TC1262-3.3VDBTR Electronic 1 113.64 113.64 113.64 IC MAX485CSA+ Electronic 1 130 130 130 Berg 2 pin Electronic 1 6 6 6 IC SM712 Electronic 1 64.22 64.22 IC SM712 Electronic 1 6 1.05 27.3 IC SM712 Electronic 1 1 1.05 27.3 IC SM712 Electronic 1 1 1.05 1.05 1.05 1.05 IC SM713 IC SM714 IC S			Terminal 2 pin	Electronic	2	6.01	12.02	
IC TC1262-3.3VDBTR Electronic 1 113.64 113.64 IC MAX485CSA+ Electronic 1 130 130 130 Berg 2 pin Electronic 1 6 6 6 IC SM712 Electronic 1 64.22 64.22 Universal Control Board Resistors (0kΩ, 220Ω, 330Ω, 20kΩ) Electronic 26 1.05 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF) Electronic 1 2.5 2.5 M7 diode Electronic 1 1.97 1.97 WS2812B LEDS Electronic 1 8 8 8 General LEDS Electronic 6 1.64 9.84			IC M7_C2760387	Electronic	1	699	699	
IC MAX485CSA+ Electronic 1 130 130 130 Electronic 1 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6			IC NJM7805DL1A-TE1	Electronic	1	132.61	132.61	
Berg 2 pin Electronic 1 6 6 6 IC SM712 Electronic 1 64.22 64.22 2 Universal Control Board Resistors (0kΩ, 220Ω, 330Ω, 20kΩ) Electronic 26 1.05 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 470μF) Electronic 10 2.5 25 M7 diode Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 8 General LEDs Electronic 6 1.64 9.84			IC TC1262-3.3VDBTR	Electronic	1	113.64	113.64	
IC SM712 Electronic 1 64.22 64.22 2 Universal Control Board Resistors (0kΩ, 220Ω, 330Ω, 20kΩ) Electronic 26 1.05 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF) Electronic 10 2.5 25 M7 diode Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 8 General LEDs Electronic 6 1.64 9.84			IC MAX485CSA+	Electronic	1	130	130	
2 Universal Control Board Resistors (0kΩ, 220Ω, 330Ω, 20kΩ) Electronic 26 1.05 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF) Electronic 10 2.5 25 M7 diode Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 8 General LEDs Electronic 6 1.64 9.84			Berg 2 pin	Electronic	1	6	6	
Resistors (0kΩ, 220Ω, 330Ω, 20kΩ) Electronic 26 1.05 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF) Electronic 10 2.5 25 M7 diode Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 General LEDs Electronic 6 1.64 9.84			IC SM712	Electronic	1	64.22	64.22	
Electronic 20 1.03 27.3 Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF) Electronic 10 2.5 25 M7 diode Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 General LEDs Electronic 6 1.64 9.84	2	Universal Control Board						
M7 diode Electronic 1 1.97 1.97 WS2812B LEDs Electronic 1 8 8 General LEDs Electronic 6 1.64 9.84			Resistors (0kΩ, 220Ω, 330Ω, 20kΩ)	Electronic	26	1.05	27.3	
WS2812B LEDs Electronic 1 8 8 General LEDs Electronic 6 1.64 9.84			Capacitors (0.1μF, 0.47μF, 33μF, 47μF, 470μF)	Electronic	10	2.5	25	
General LEDs Electronic 6 1.64 9.84			M7 diode	Electronic	1	1.97	1.97	
			WS2812B LEDs	Electronic	1	8	8	
Headers (Male) Electronic 16 1.18 18.88			General LEDs	Electronic	6	1.64	9.84	
			Headers (Male)	Electronic	16	1.18	18.88	

Τ τ Seial Number	Part Description	Sub-parts	Category	T _T Quantity	# Unit Cost	# Total Cost	
		Limit Switches	Electronic	4	22	. 88	
		Jumper pins	Electronic	1	0.8	0.8	
		IC PCA9685	Electronic	1	330	330	
		IC LM3940IMP-3.3	Electronic	1	110	110	
		IC SN74LVC1G126	Electronic	1	7.59	7.59	
		IC SN74LVC1G125	Electronic	1	9.28	9.28	
		MMBT3906 (PNP transistor)	Electronic	1	1.5	1.5	
		Step-down Voltage regulators	Electronic	2	315	630	
		Transistor AOD417	Electronic	1	25.3	25.3	
		Waveshare Serial Servo Controllers	Electronic	1	380	380	
		TMC2209 Motor Drivers	Electronic	4	389	389	
		UART interface	Electronic	1	79	79	
3	Waveshare SC15 Servo		Electronic	1	1500	1500	
4	DC Stepper Motor		Electronic	2	1700	3400	327
5	VL53L0X Ultrasonic Sensor		Electronic	1	111	111	999
6	HX711 ADC for Weight Scales		Electronic	1	38	38	
7	Central bearing Plate		Mechanical	2	55	110	
8	Base Part Top		Mechanical	1	49	49	
9	Base Part Bearing		Mechanical	1	39	39	
10	Ball Bearing		Mechanical	1	25	25	
11	Central Motor Clamp		Mechanical	1	35	35	
12	Arm Mount		Mechanical	1	14	14	
13	Base Side part		Mechanical	4	49	196	
14	Actuator Arm		Mechanical	1	15	15	
15	End effector top plate		Mechanical	1	23	23	
16	Steel Arms of the Robot		Mechanical	4	15	60	
17	Lifting Lever		Mechanical	3	12	36	
18	Base Part Bottom		Mechanical	1	39	39	

T _T Seial Number	Part Description	Sub-parts	Category	T _T Quantity	# Unit Cost	# Total Cost
19	Motor Clamp		Mechanical	2	19	38
20	Bell Crank		Mechanical	1	12	12
21	Generic Servo Horn		Mechanical	2	24	
					Final Total Cost	10279.03
					Tillal Total Cost	10279.03
I						
					7622.17	20549.06

T _T Seial Number	Part Description	Sub-parts	Category	T _T Quantity	# Unit Cost	# Total Cost