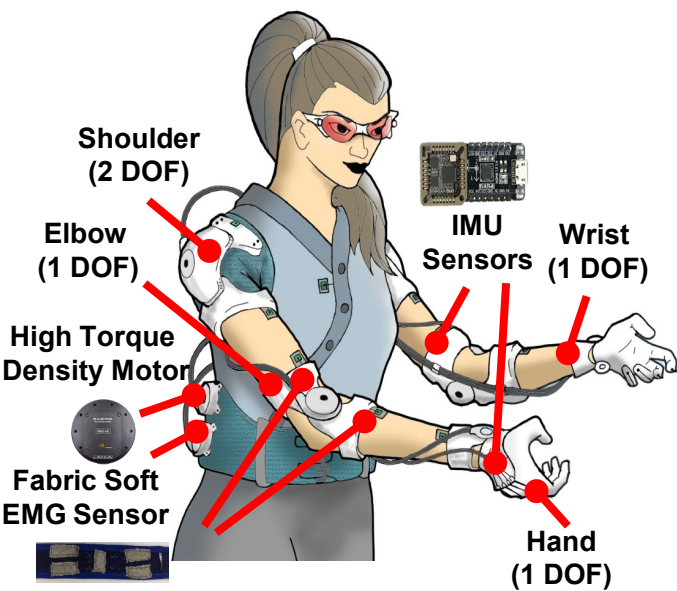


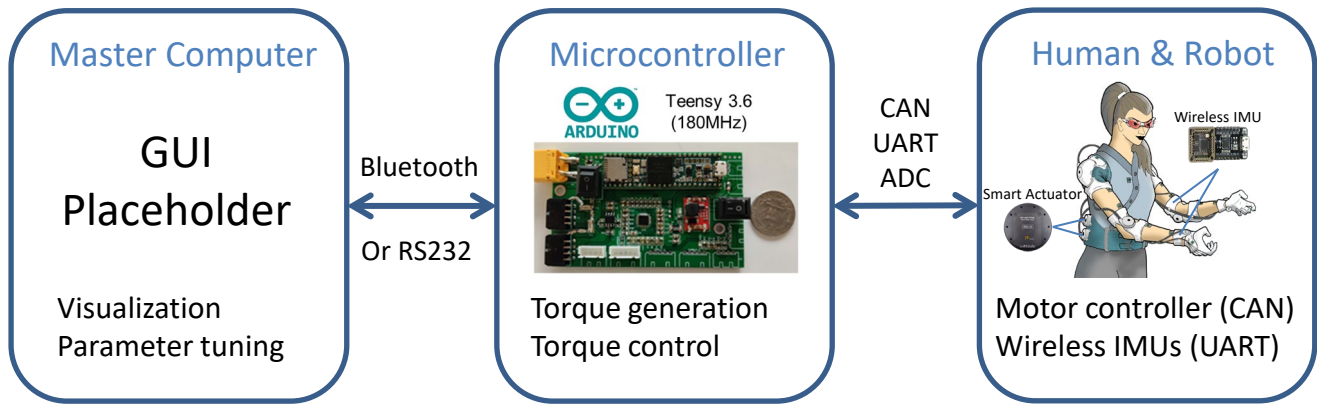
Upper Limb Exoskeleton



Motor Specifications	
Motor Used	RMD-X8
Motor Size	Ø98 mm x 43mm
Motor Nominal Voltage	48 V
Motor Nominal Torque	9 Nm
Motor Nominal Speed	165 RPM
Motor Nominal Power	240 W
Motor Max Stall Torque	21 Nm
Motor Weight	630 g
Motor Gear Ratio	6:1
Encoder	16-bit magnetic encoder



Actuator Specifications	Design	Ratio
Shoulder Torque	12 Nm	36 : 1
Shoulder Motion	-30-170°	
Elbow Torque	2 Nm	6 : 1
Elbow Motion	30-180°	
Wrist Torque	0.33 Nm	1 : 1
Wrist Motion	-80-80°	
Angular Speed	> 15 rad/s	
Backdriving Torque	< 10 %	
Weight (5 actuators)	1.2 Kg	



Control Specifications	
Control Loop	Torque/Speed/Position loop
Master Computer Communication	Bluetooth, USB (RS-232)
Microcontroller communication	RS232, CAN bus
Control Platform	Placeholder
API Support	Placeholder