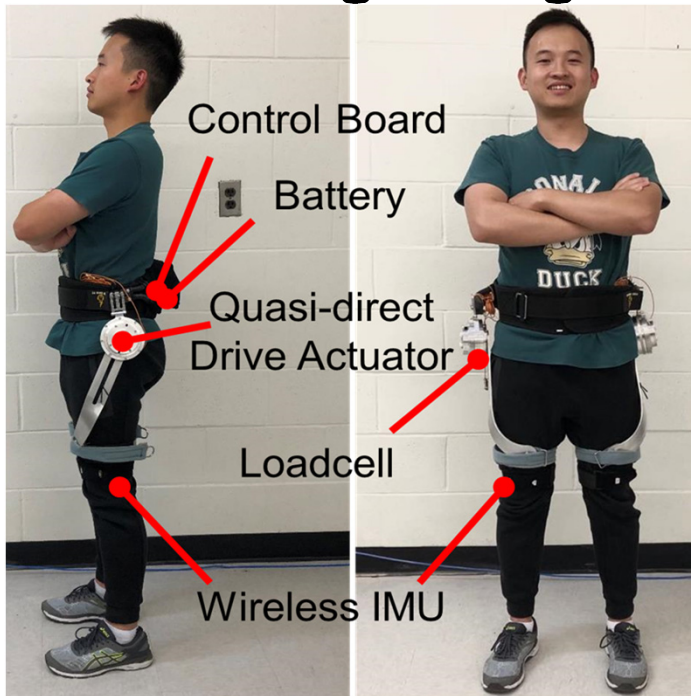
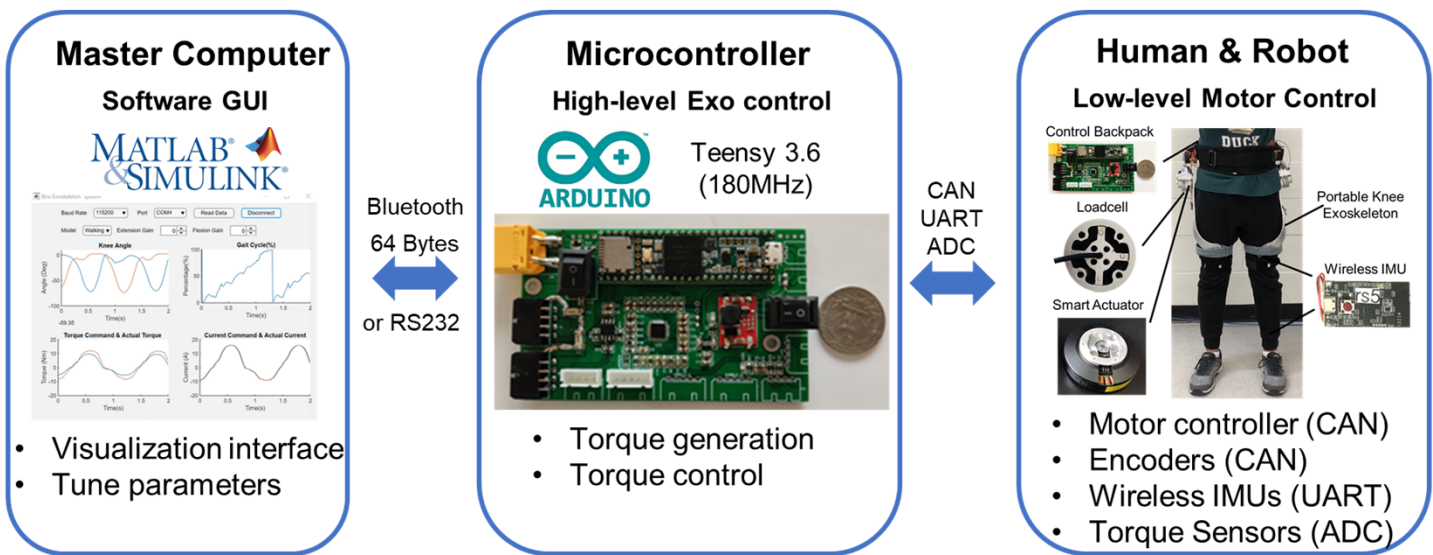


Lightweight Hip Exoskeleton



Specifications	
Property	Value
Nominal Voltage	42V
Motor Nominal Torque	2 Nm
Motor Peak Torque	6 Nm
Motor Nominal Speed	1500 RPM
Gear ratio	8:1
Output Nominal Torque	16 Nm
Output Peak Torque	45 Nm
Actuator Output Speed	188 RPM
Mass (without battery)	2.6 kg
Mass (with battery)	3.4 kg
Flexion/Extension	130°/40°
Abduction/Adduction	90°/60°
Battery life	2 hours

Sensor and Control Description



Sensor and Control Specifications

Sensing	Motor encoder, 9-axis IMU, Torque Sensor
Control Platform	MATLAB Simulink Real-time, Arduino Teensy
API Support	MATLAB, C/C++, Python
Upper Computer Communication	Bluetooth, USB (RS-232)
Lower Computer Communication	RS-232, CAN bus, SPI, I ² C

Portable Exoskeleton Architecture (Teensy 3.6)

