

EMG CONTROLLED RC CAR

Who

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Grant Hunter.

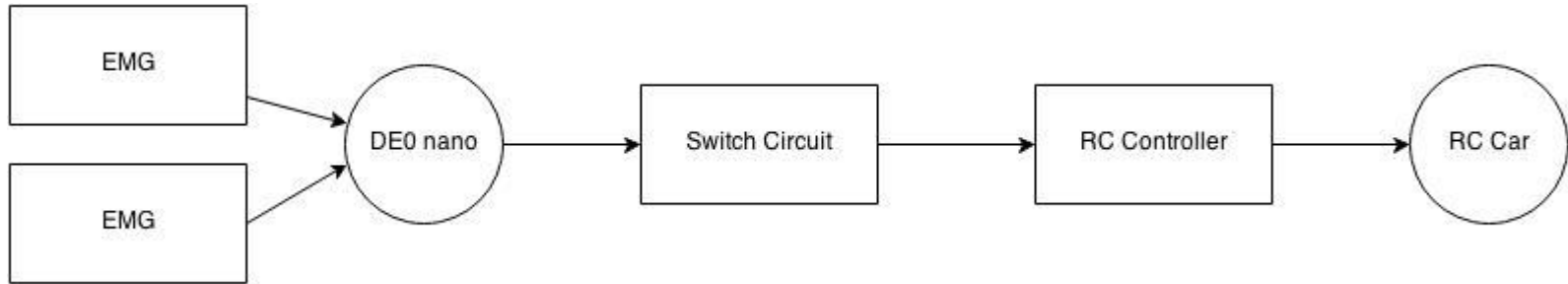
Jessica Matthews.

Emil Jafarli.

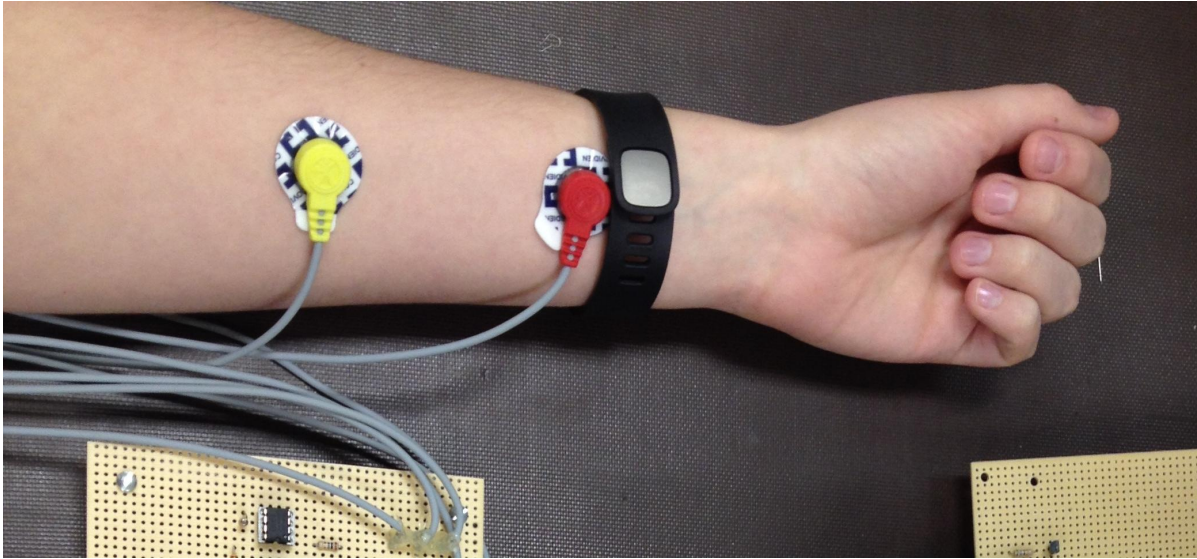
What

Controlling an RC car with gestures from the user's arms.

What



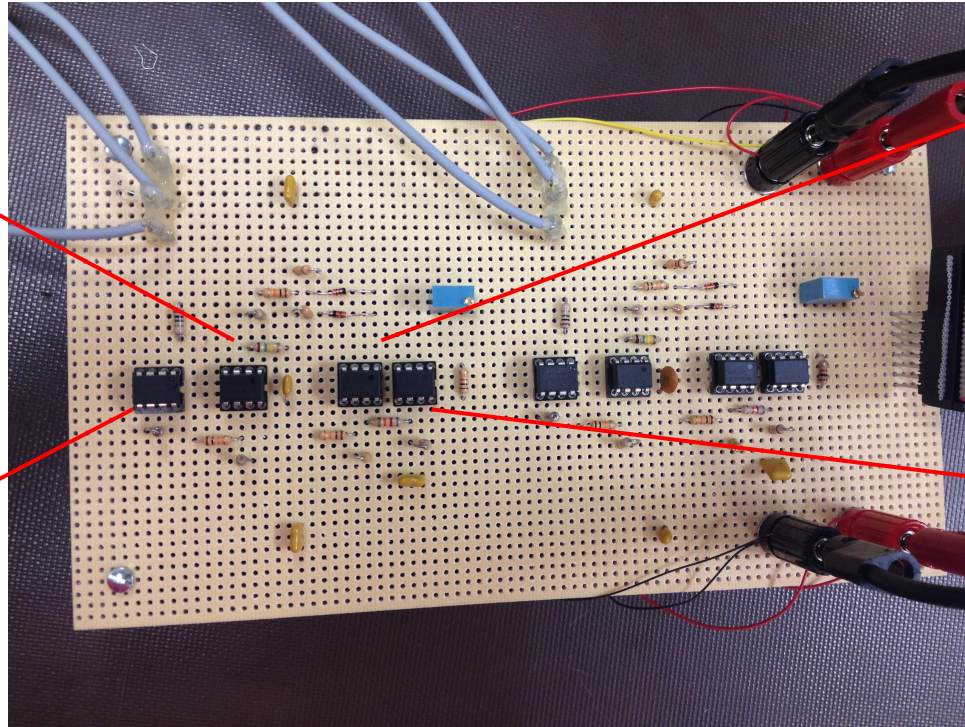
How: EMG



How: EMG

Inverting Amplifier

Differential Amplifier



Full Wave Rectifier

Active Low-Pass Filter, Inverting Amplifier

How: EMG

Forward and
Right Turn
commands



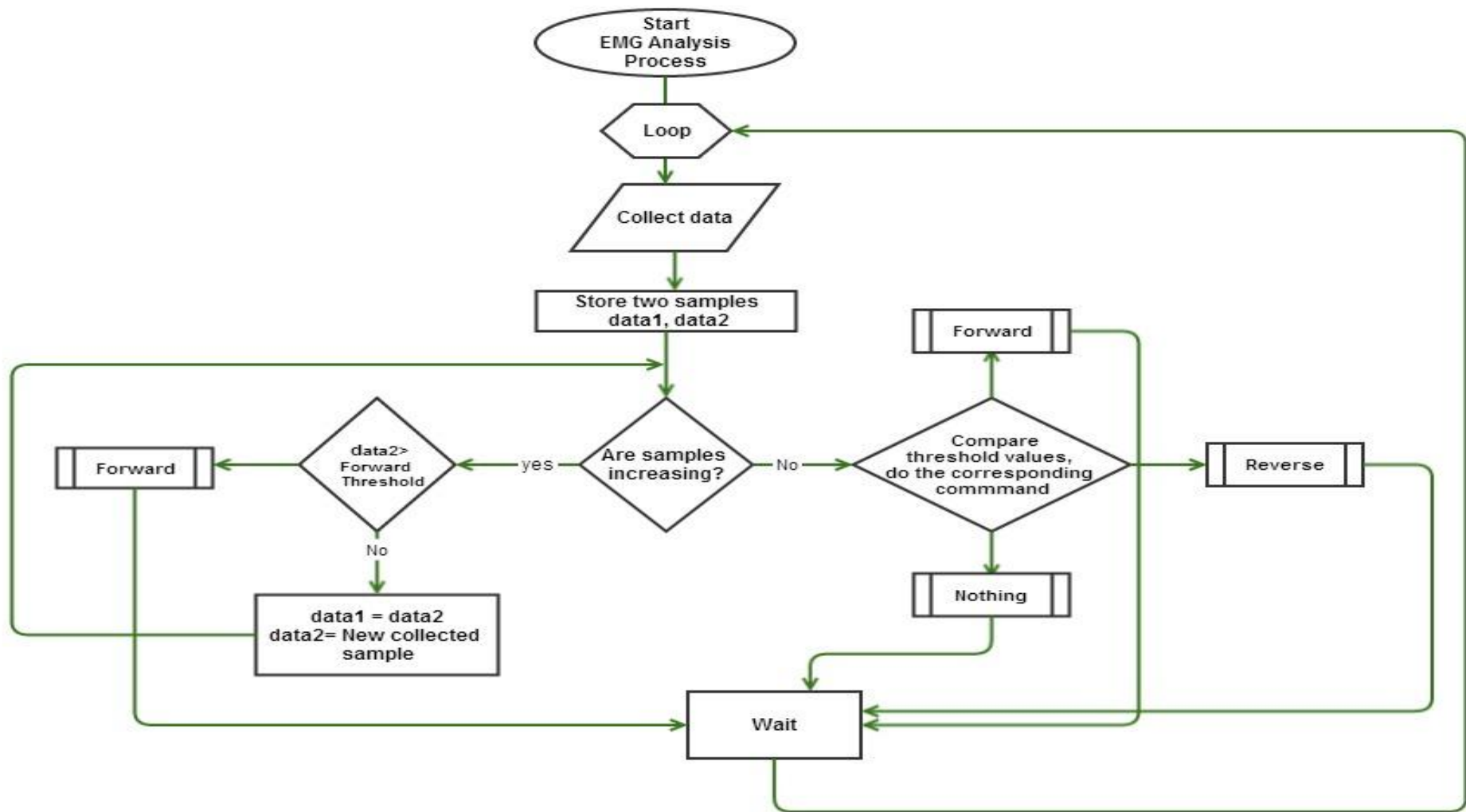
Reverse and Left
Turn commands

Stop
Command

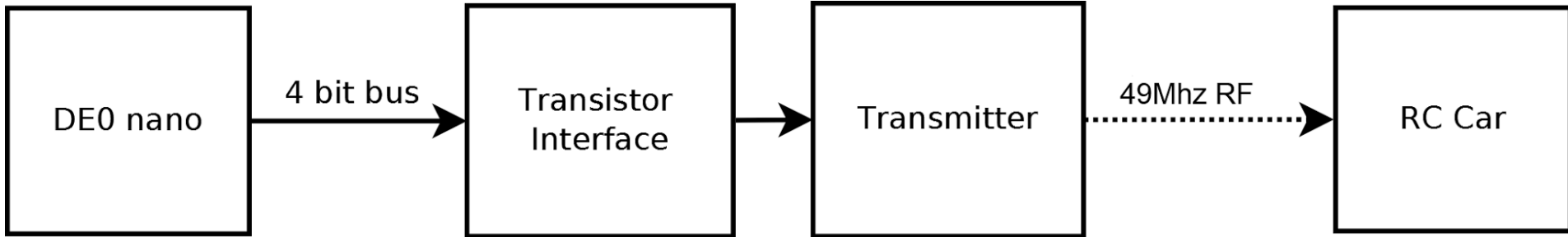
How: Control

Use adaptive thresholding to determine the beginning of a pattern

Collect samples continuously on the rising edge of the signal



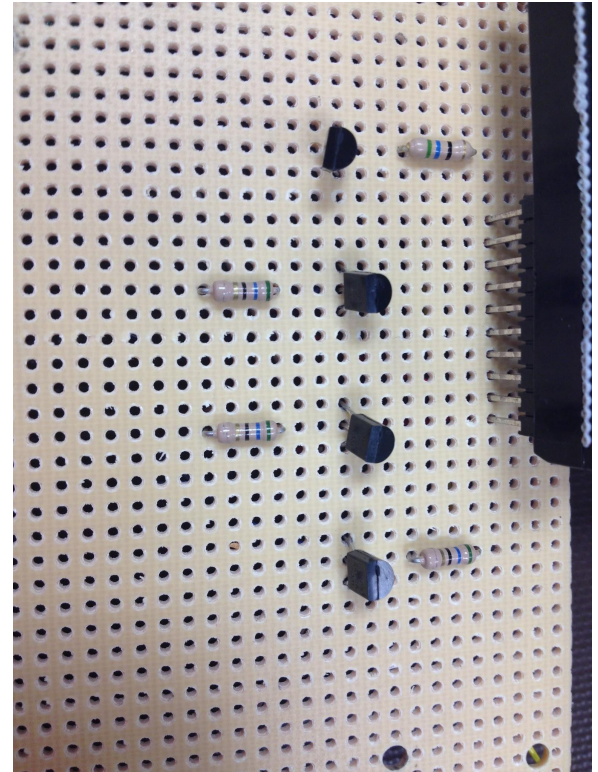
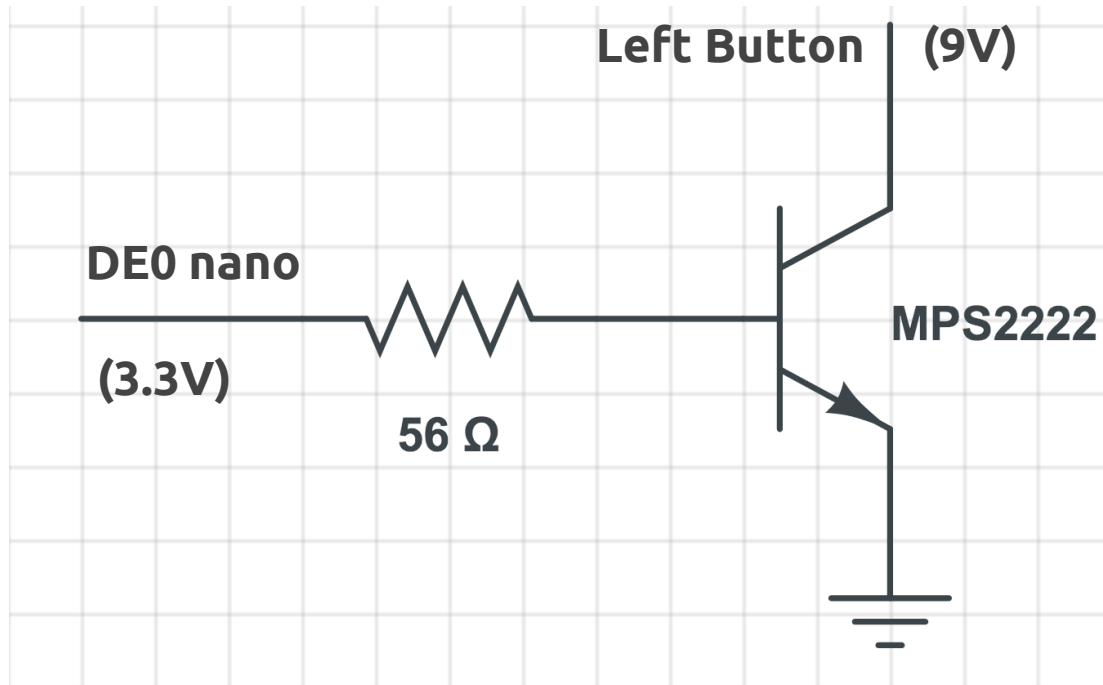
How: Transmitter



How: Transmitter

	Movement		Turning	
Foward	1	0	0	0
Backward	0	1	0	0
Left	0	0	1	0
Right	0	0	0	1

How: Transmitter



Why

Interesting Challenge

Software + Hardware + Digital + Analog

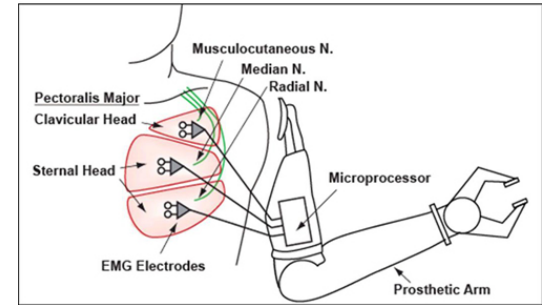
Why

Potential of the technology

Prosthetics

Computer-human interface

Disability assistance



<http://www.rehab.research.va.gov/jour/11/486/page643.html>



<https://www.thalmyc.com/en/myo/>