



Robots!

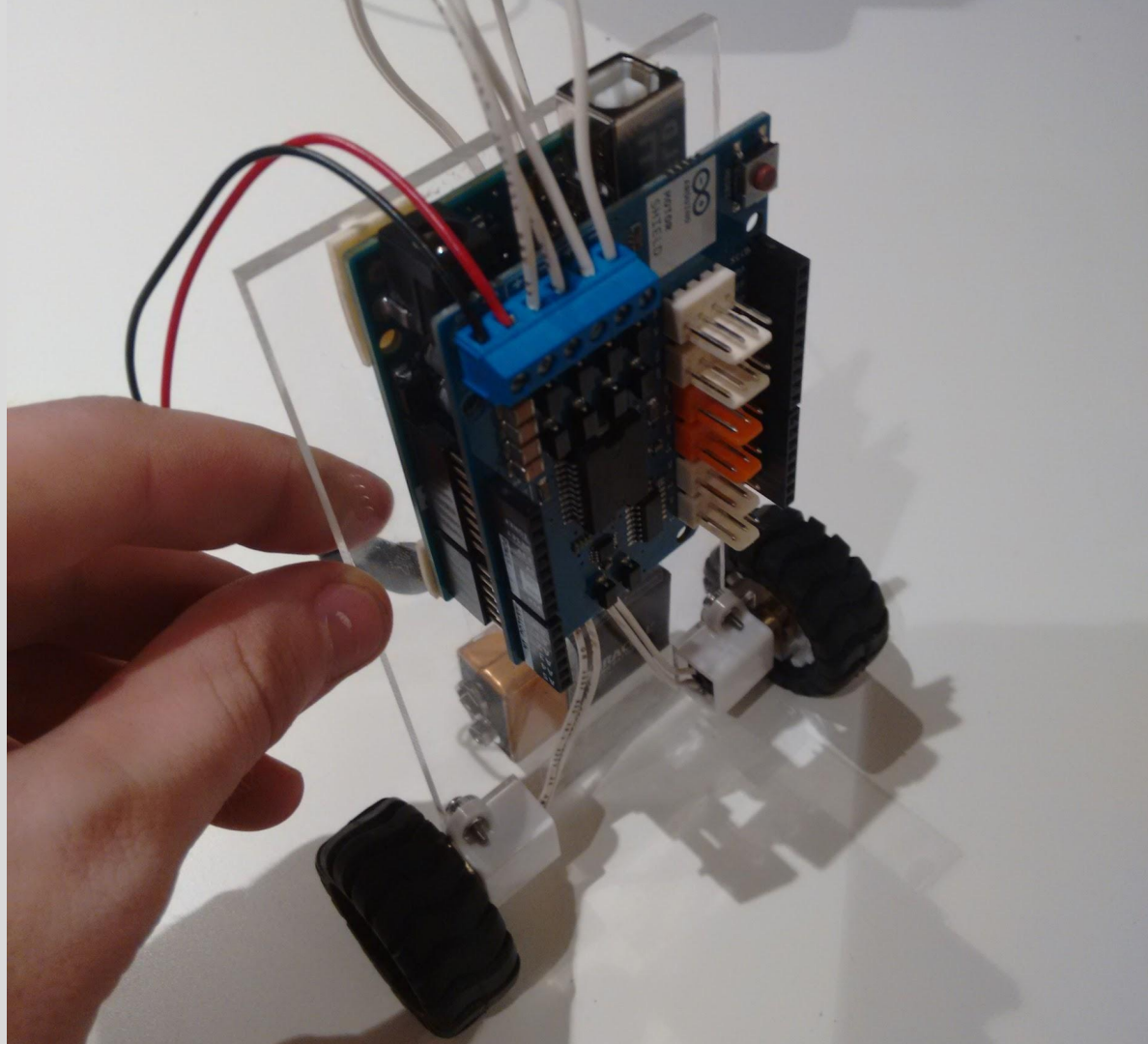


# Outline

- I made a robot
- It was a lot of fun
- You can too!

# Part 1: I made a robot



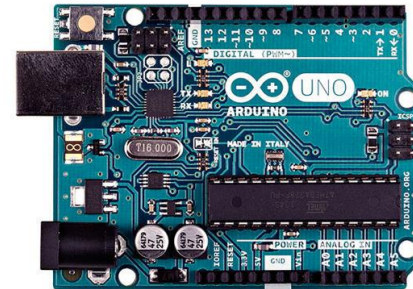
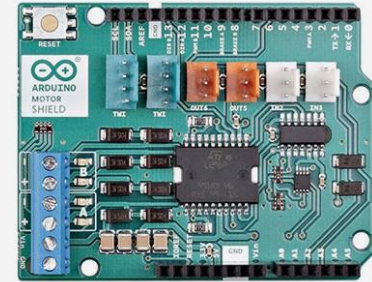
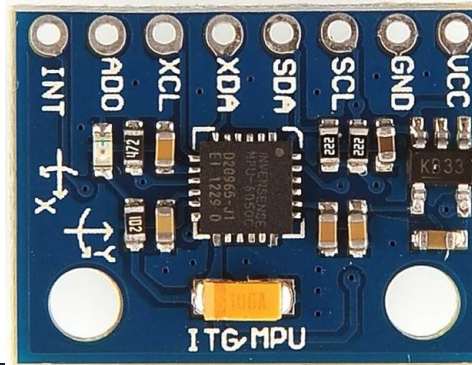


Demo video



# Parts

- Arduino UNO
- Arduino motor shield
- Pololu gearmotor
- IMU6050 gyro + accelerometer
- 3mm laser cut acrylic
- Wheels
- 9v battery





# Code

- Arduino C(++)
- Magic binary blob on IMU to get angle :(
- Proportional-Derivative controller to stay upright
- Lots of ways this could be better!
  - Kalman Filter
  - LQR
  - Finding balance point
  - Better motors/controller


Part 2: It was a lot of fun





## Part 3: You can too!



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- Lots of supplies in Turing
  - Blog post
  - It's easier than you think!



*That's all Folks!*