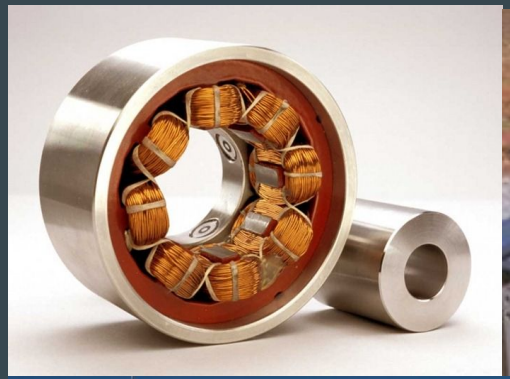
# Levitador Eletromagnético

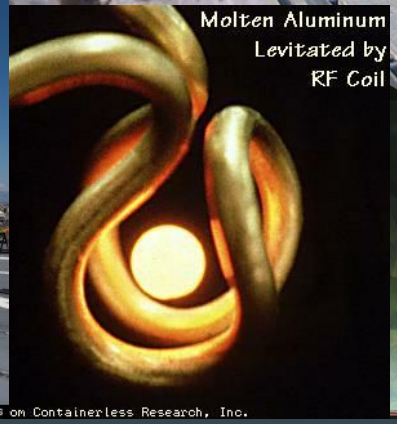

Denise Albertazzi Gonçalves
Ígor Assis Rocha Yamamoto
Luis Felipe Pelison

# Sumário

# Contextualização

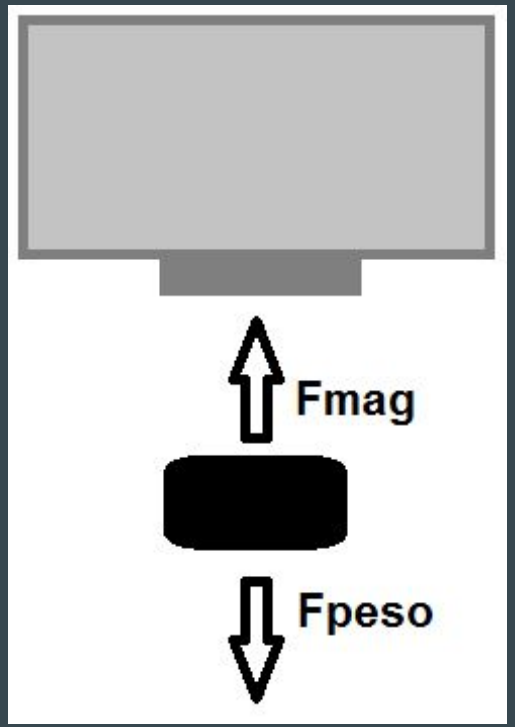



US Navy/BAE Systems



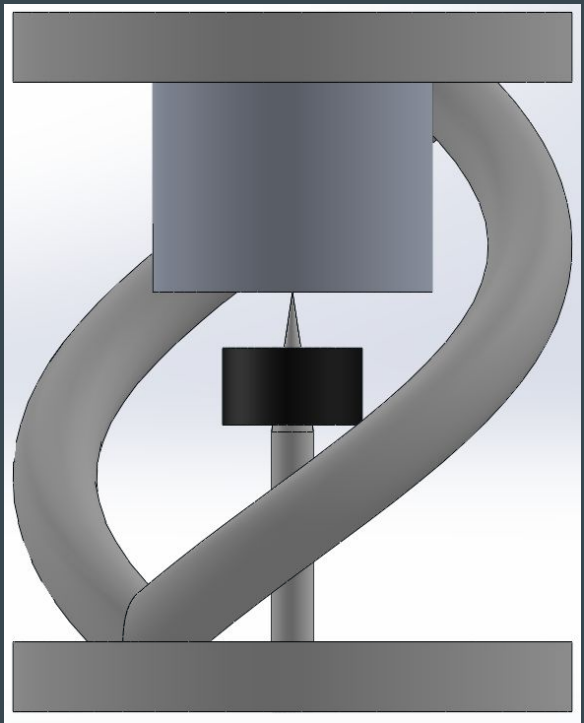

om Containerless Research, Inc.

# Modelagem Teórica



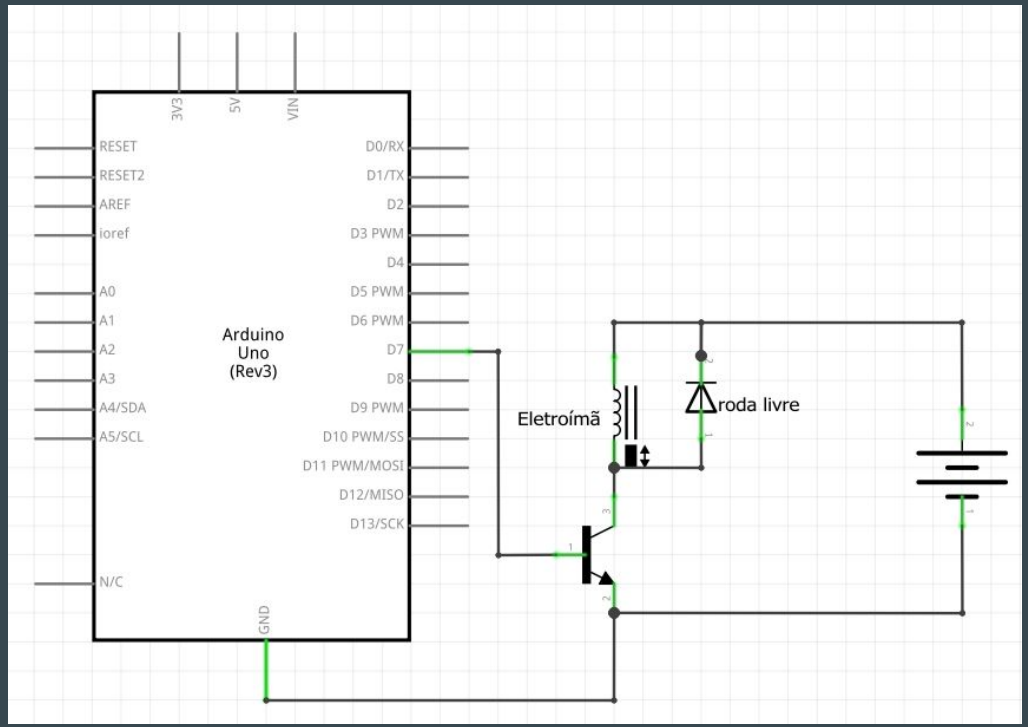

- $F = m * a$
- $F_{mag} - F_{peso} = m * \frac{d^2h}{dt^2}$
- $F_{peso} = m * g$
- $F_{mag} = \frac{i^2(t)}{2*a} * L * e^{-\frac{h}{a}}$
- $v(t) = R * i(t) + L(h) * \frac{di(t)}{dt}$

# Projeto físico



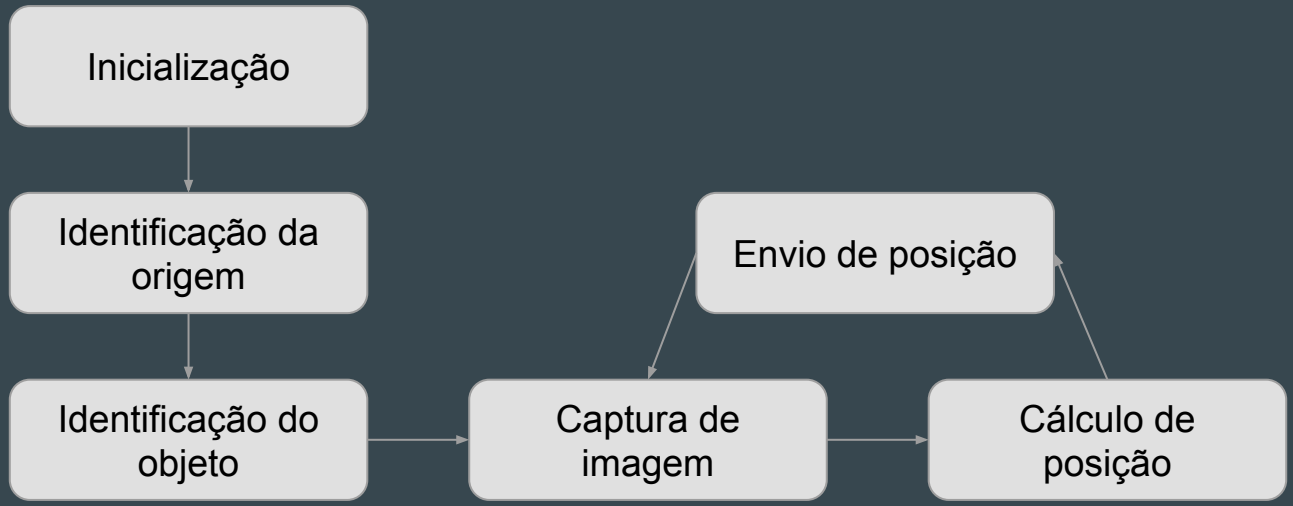
- Estrutura impressa em 3D
- Eletroímã de potência 3W
- Ímãs de neodímio
- Eixo central
- Webcam para captura de posição

# Projeto elétrico

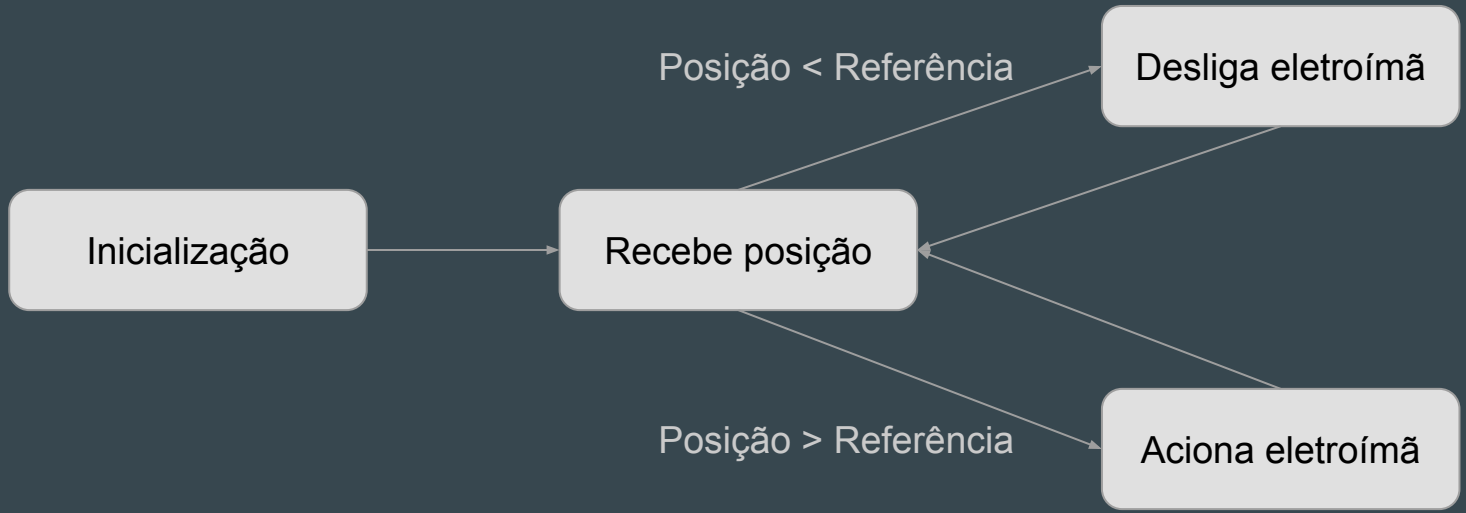



- Arduíno
- Transistor NPN
- Eletroímã
- Diodo de roda livre
- Fonte 12V

# LabView

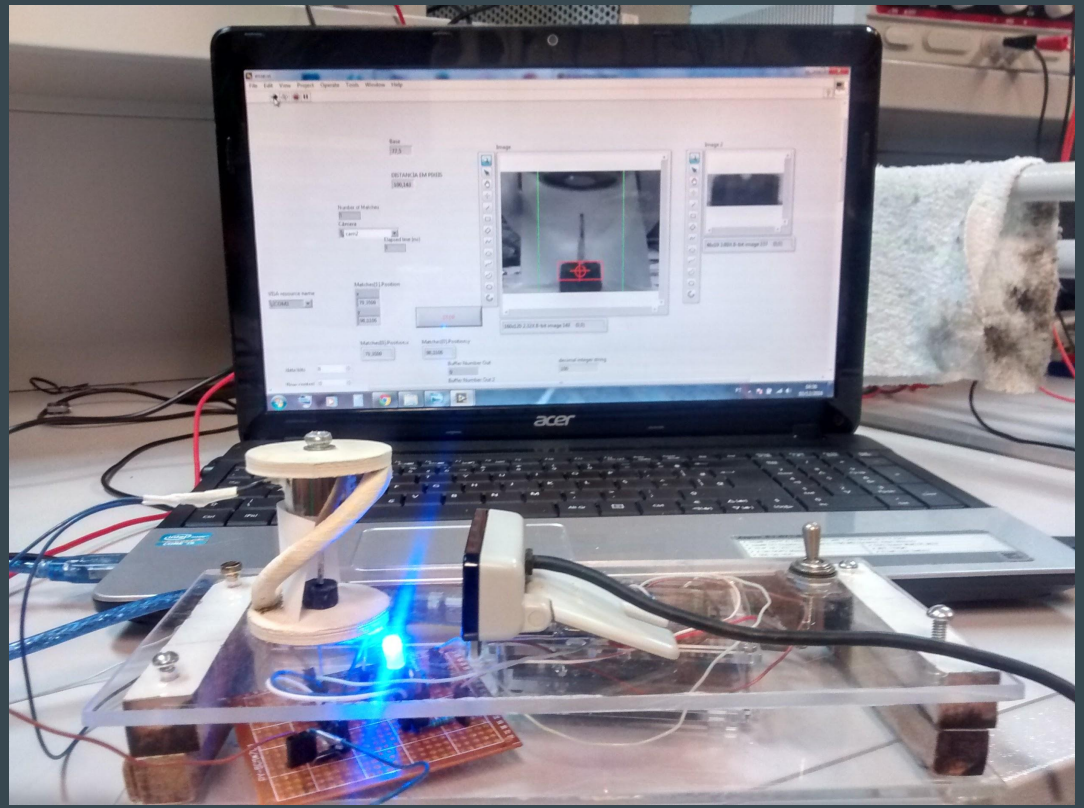

Inicialização
Identificação da origem
Identificação do objeto
Captura de imagem
Envio de posição
Cálculo de posição

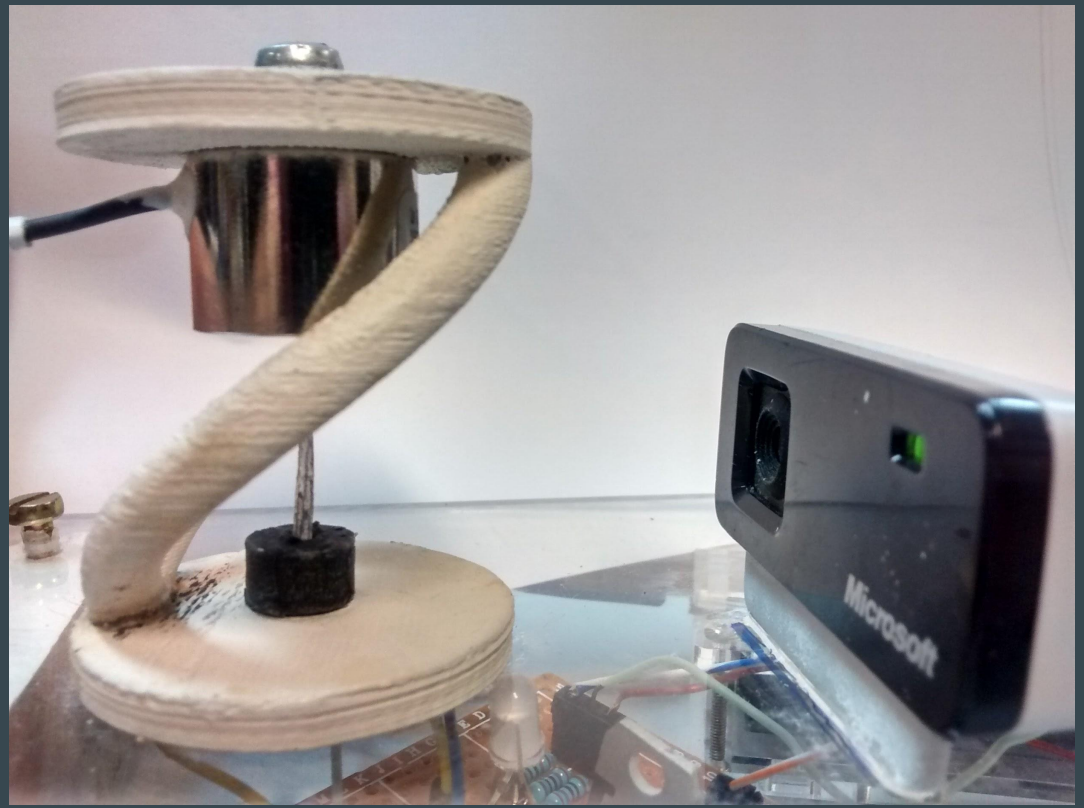
# Arduíno

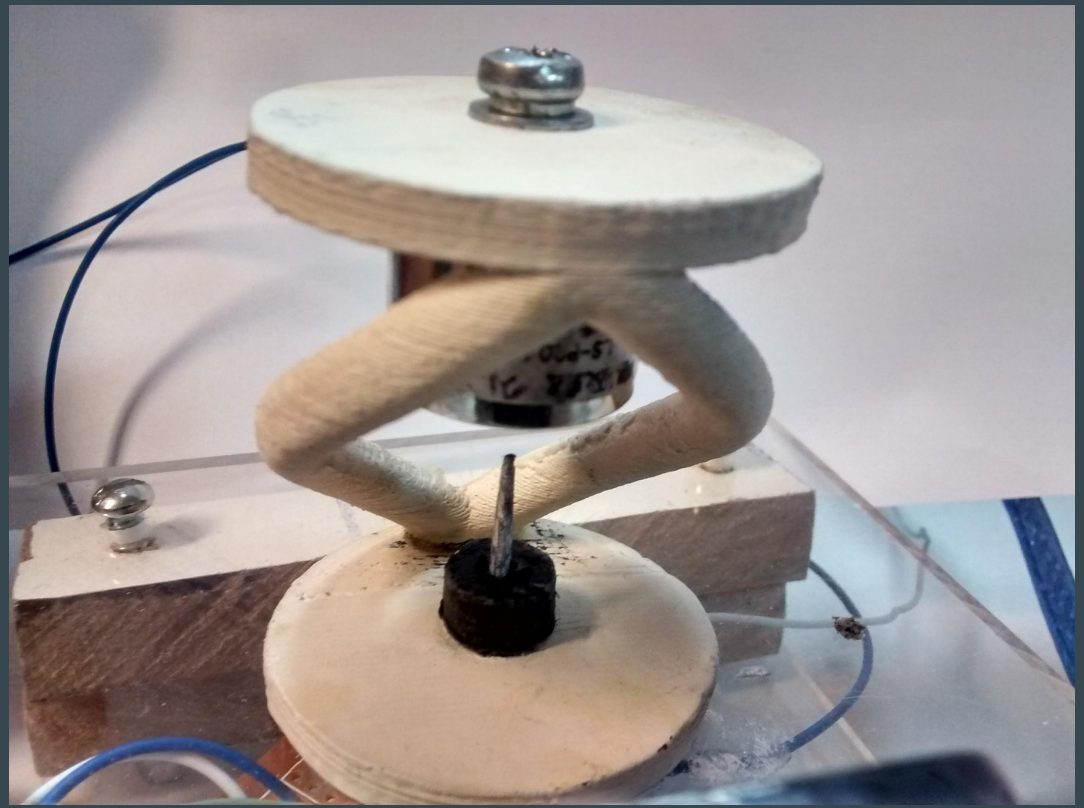

Posição < Referência
Desliga eletroímã
Inicialização
Recebe posição
Posição > Referência
Aciona eletroímã

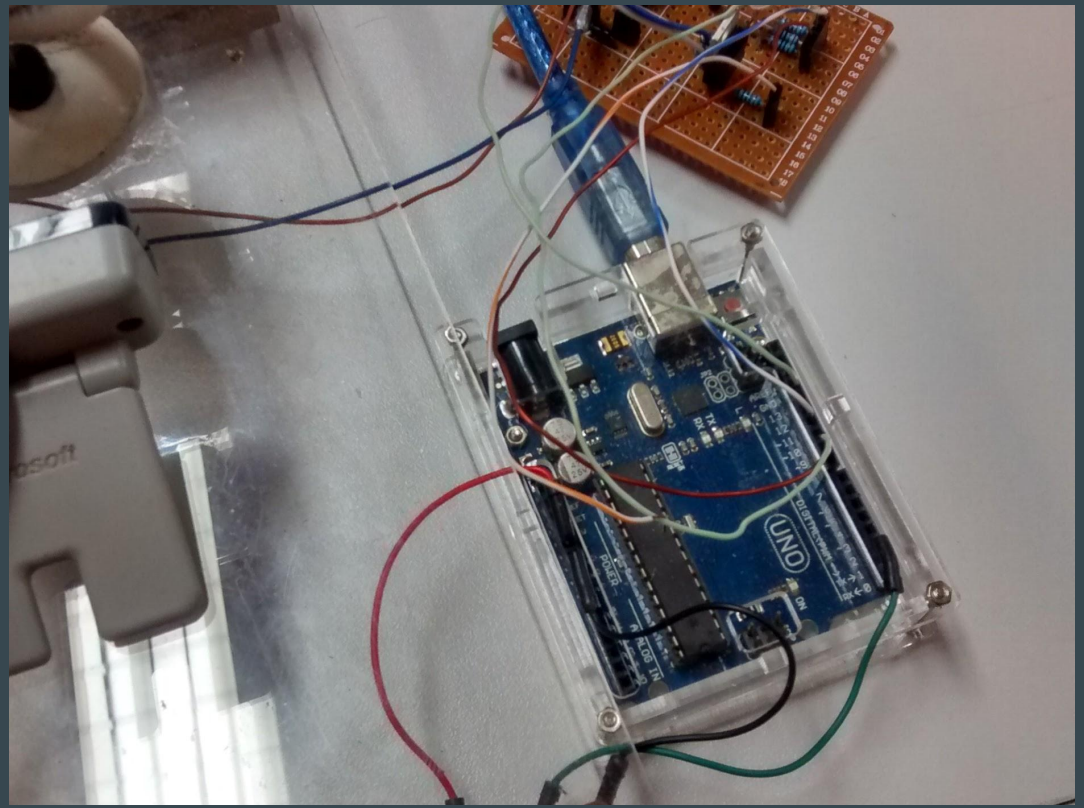
Vídeo

https://www.youtube.com/watch?v=902EiLW-yN8&t=12s


acer


Microsoft




UNO

# Referências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