

Open Source 3D Obstacle Recognition Applied to a Power Line Inspection Robot

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Numbers

38%

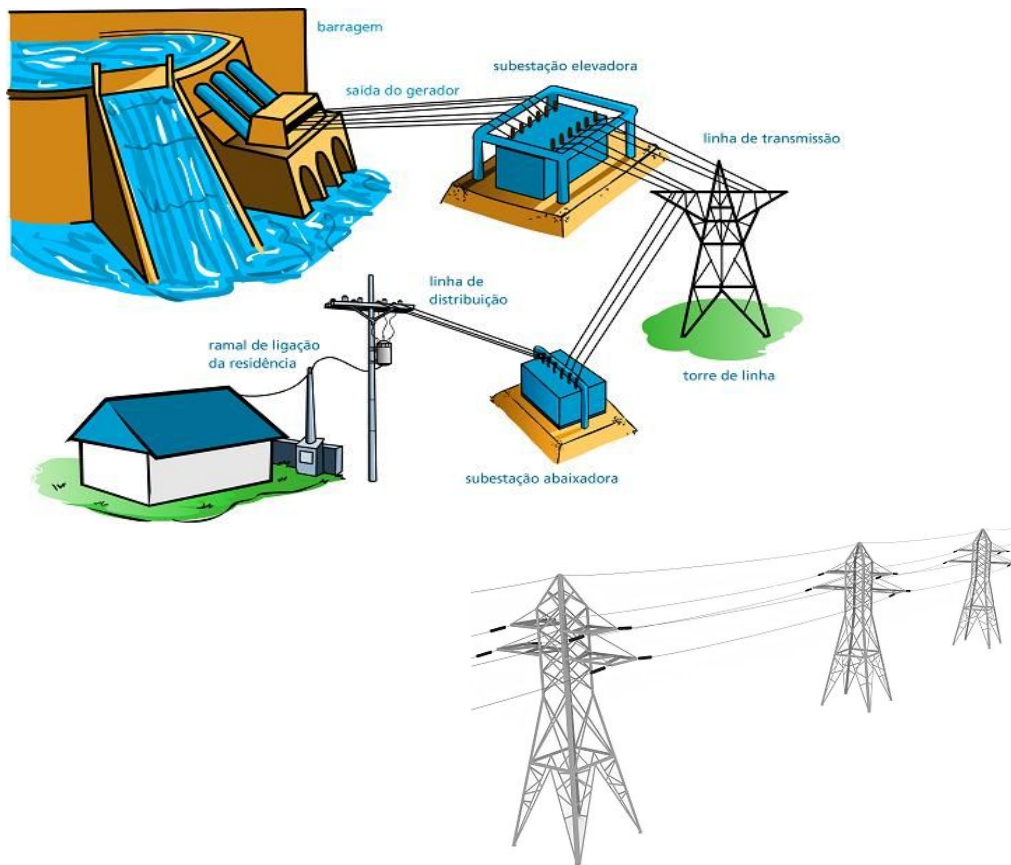
136.027 km

40% useful life

24 hours per day

7 days per week

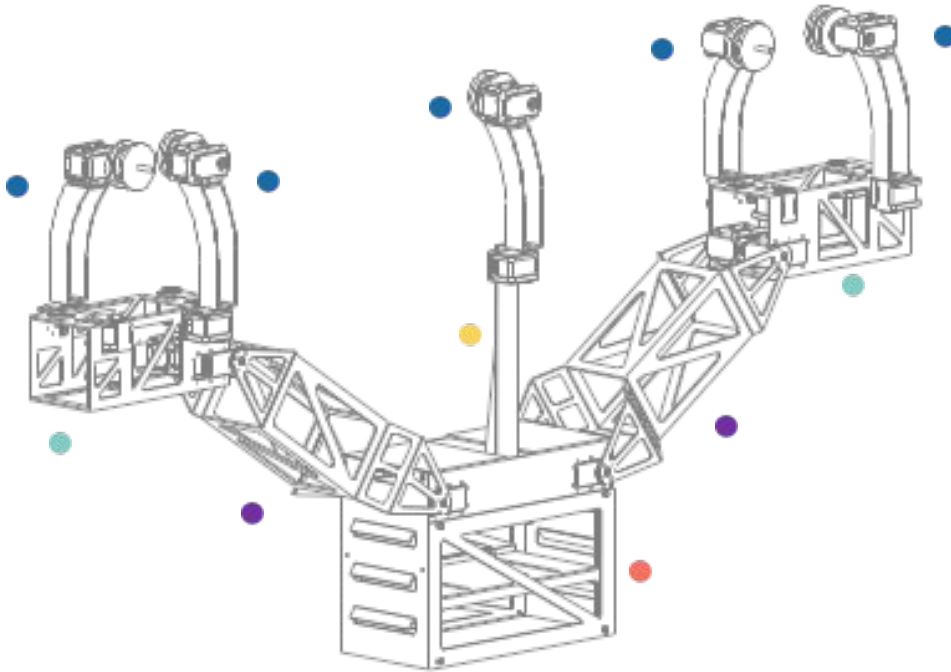
365 days per year



Brazil Power Line Inspection



Electrical Inspection Robot (ELIR)



Autonomous robot that aims to do visual and thermal inspection.

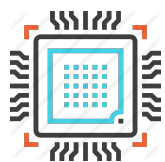
Expected payload **8.5 kg**

Overcome slopes up to **60°**



- Grippers
- Arms
- Traction
- Central Unit
- Fixation Pole

Development Environment



Intel Core i7 de 300 GHz

2 GPUs Geforce GTX Titan Black

RAM Memory DDR3 - 47,1 GB

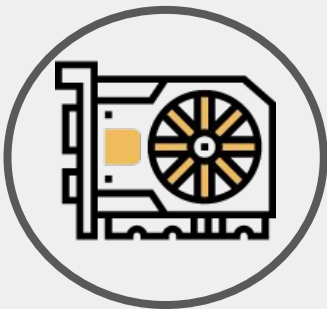


Ubuntu 16.04 LTS

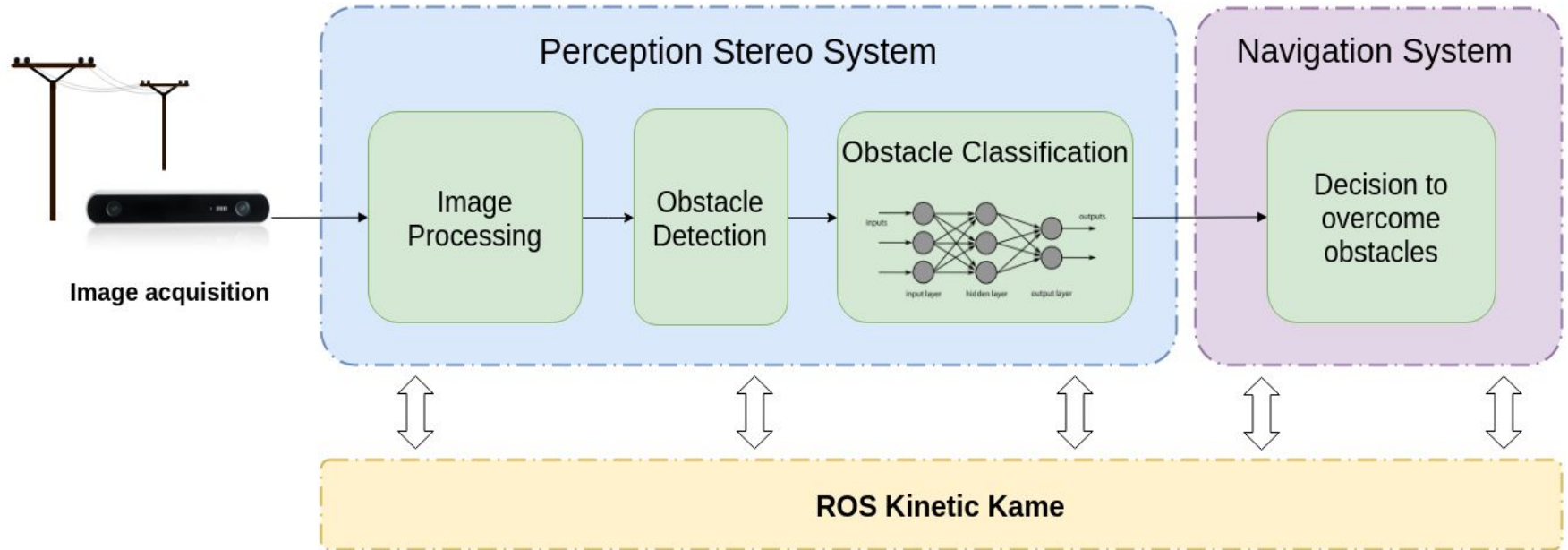




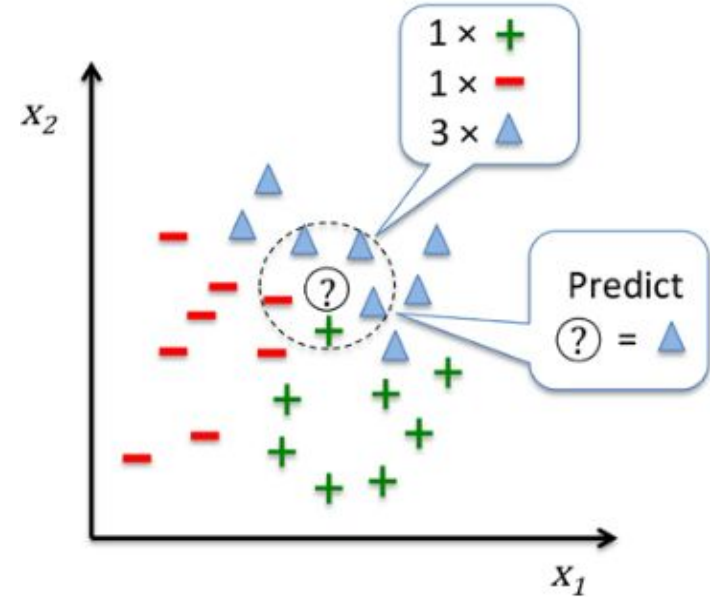
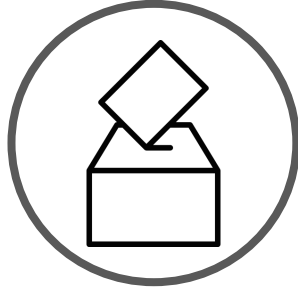
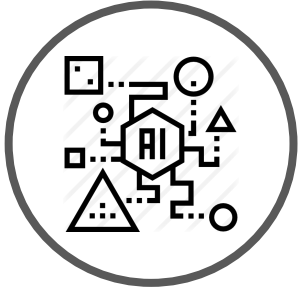
20 m

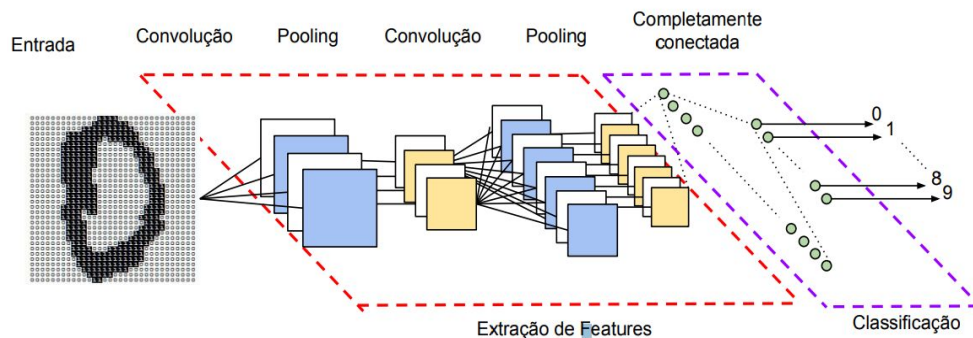


Stereo Perception Module



K - Nearest Neighbors (KNN)



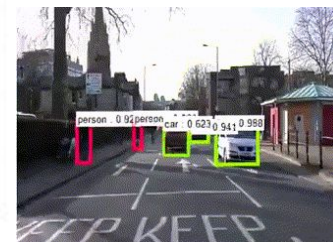
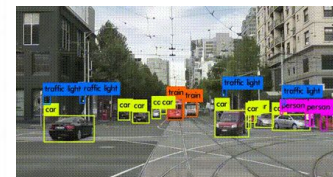
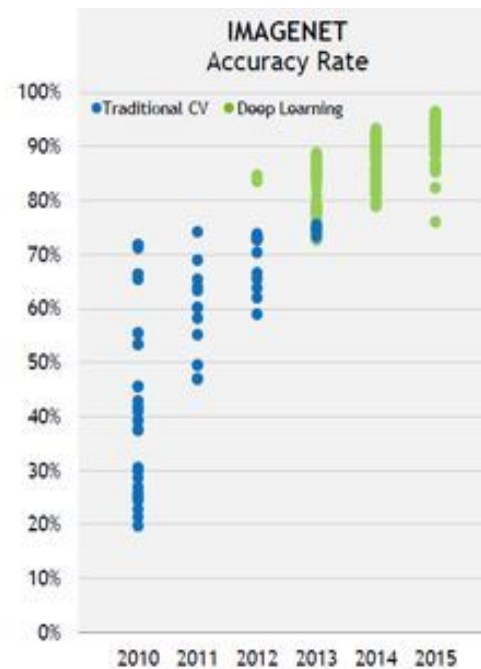


2012

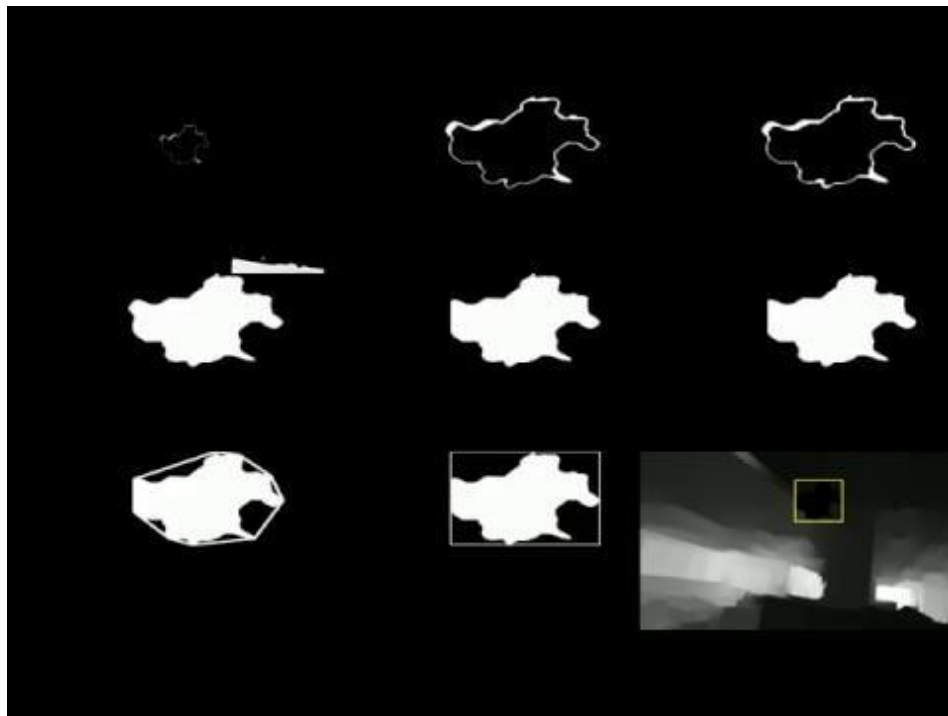


AlexNet
PRETRAINED MODEL

GoogleNet

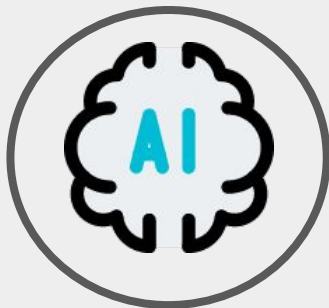
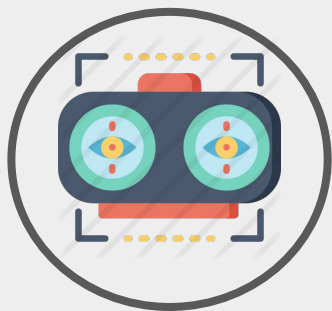


Results



Results





  @matheusns



I'm receiving hiring proposals!

https://github.com/matheusns/stereo_perception

https://github.com/matheusns/ros_zed_data_acquisition

Thank you so much!!



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