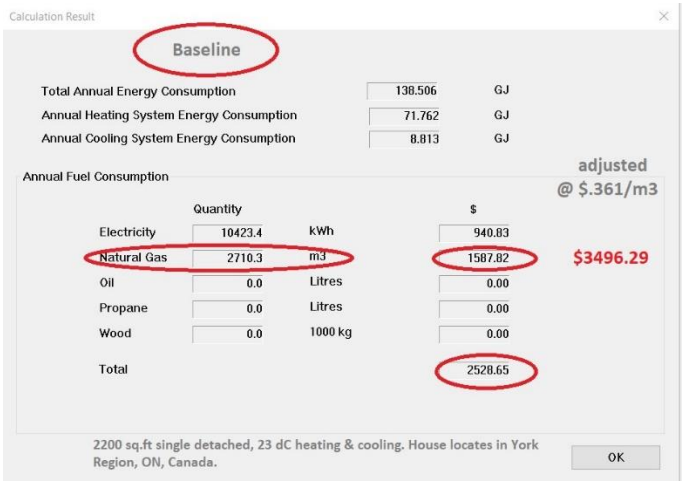
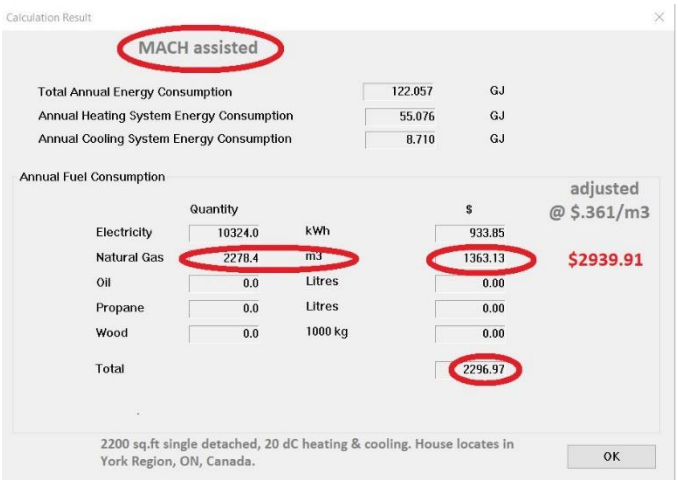
Energy Simulation

HOT2.XP

Natural Resources Canada | Ressources naturelles Canada

Canada





National avg. 2,385 m^3, from Canadian Gas Association

Natural Gas	Baseline (without MACH)	Innovation (with MACH)	Savings	Reduction
m^3	2710.3	2278.4	431.3 m^3	**16%**
$ (historical price)	1587.82	1363.13	$224.69	
$ (adjusted price)	3496.29	2939.91	$556.38	

ONTARIO ENERGY BOARD

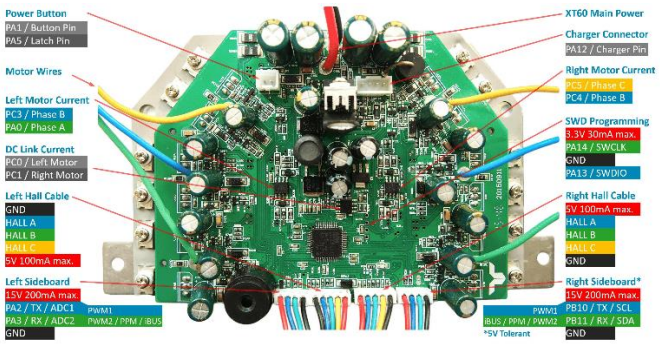
Previously on Cargo Connect

? Bigger Payload

BINGO

Up to 220 lb Payload

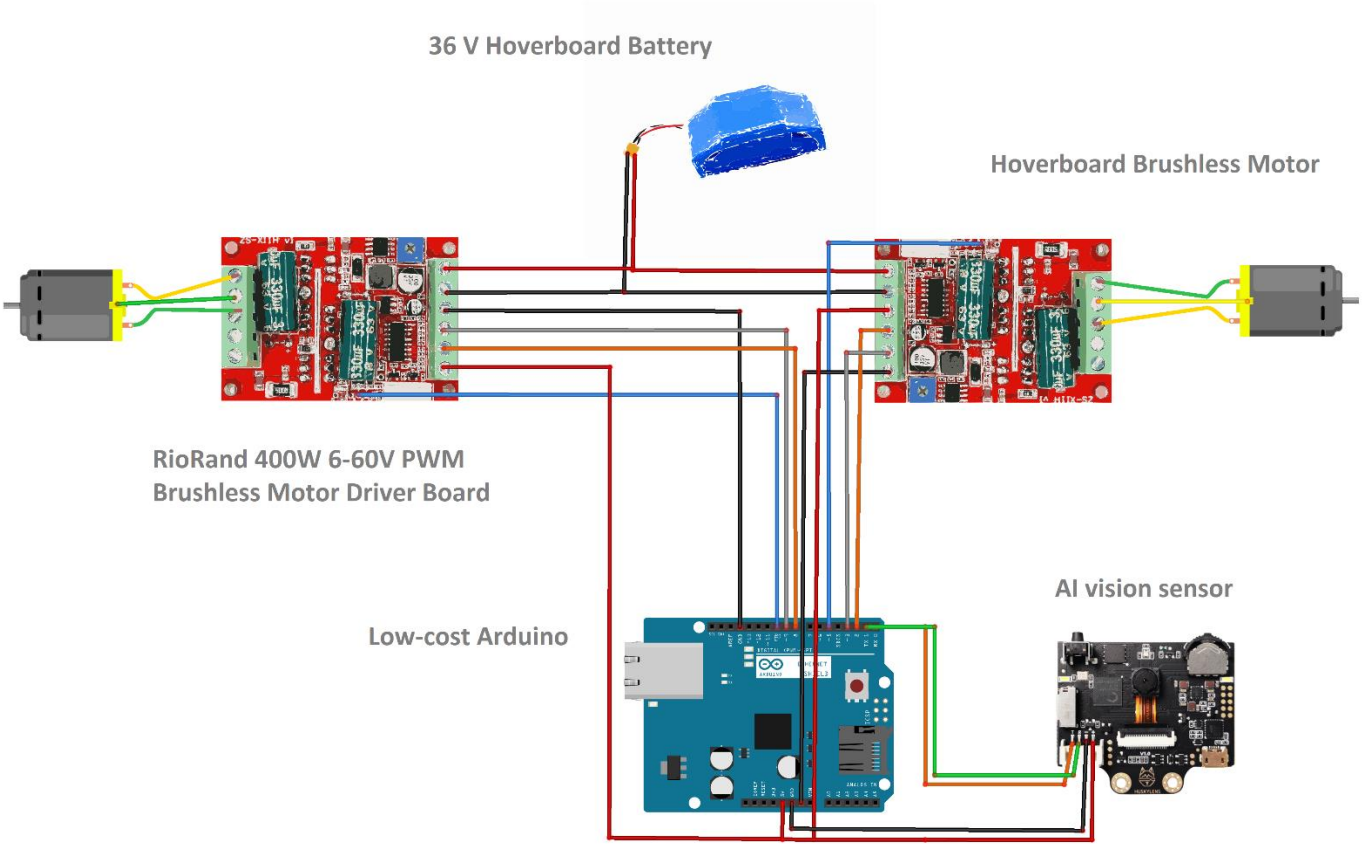
! Hacking in Progress



BUT  ***New Problem***

STEADY & SLOW ~~FAST~~

Solvers' NEW Solution



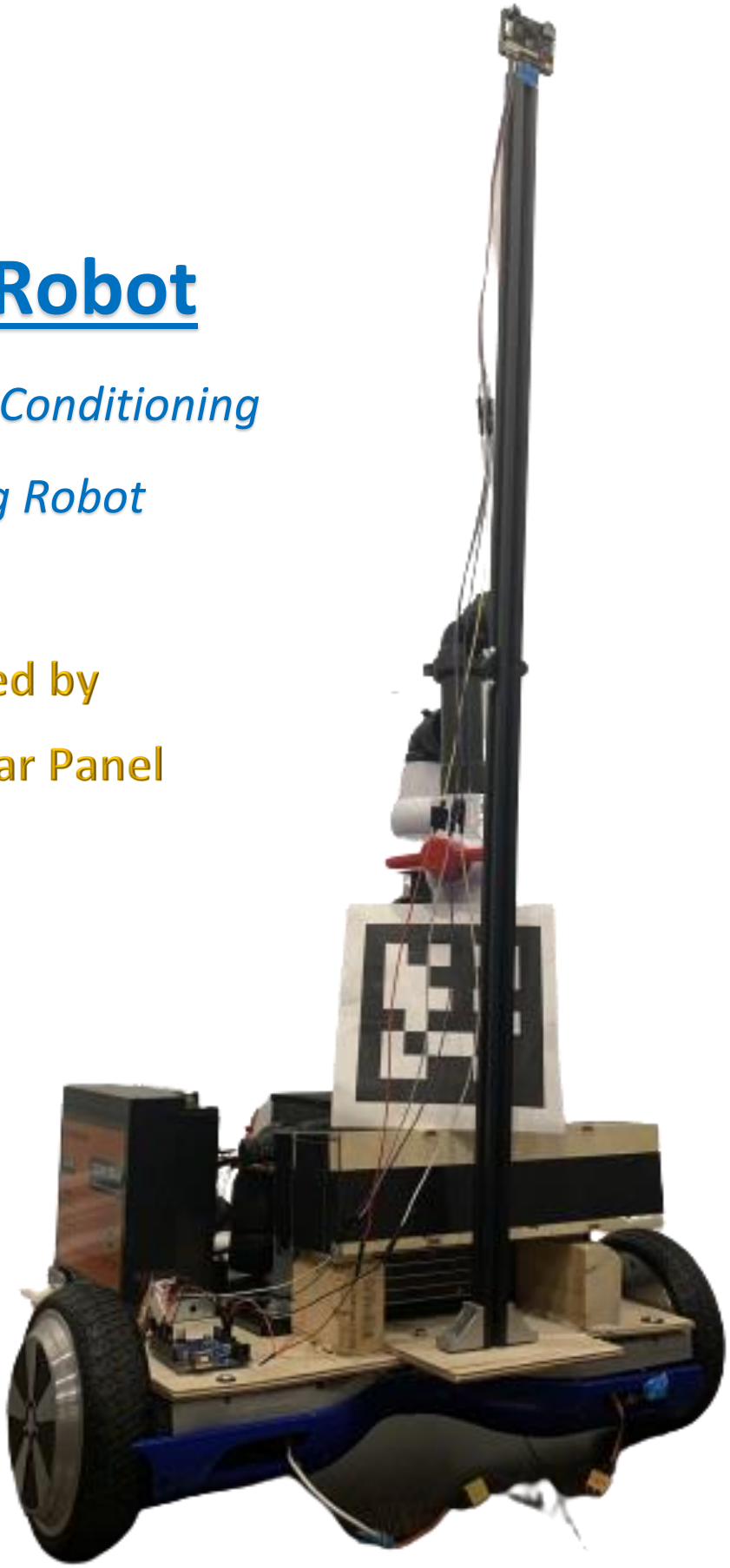
MACH Robot

The Mobile Air Conditioning

& Heating Robot

Powered by

100 W Solar Panel



Greenhouse Gas Equivalencies Calculator

Greenhouse Gas **Equivalencies Calculator**

Did you ever wonder what reducing carbon dioxide (CO_2) emissions by 1 million metric tons means in everyday terms? The greenhouse gas (GHG) equivalencies calculator can help you understand just that, translating abstract measurements and emissions data into concrete terms, such as the annual emissions from cars or households.

There are two options for entering reduction data into this calculator.

If You Have Energy Data | **If You Have Emissions Data**

Please note that these estimates are approximate and should not be used for emission inventory or formal carbon footprinting exercises. Read more about the caveats and explanations on the Calculations and References page

Amount	Unit	Gas
0.419	Metric Tons	CO_2 - Carbon Dioxide or CO_2 Equivalent*
	Metric Tons	Carbon or Carbon Equivalent
	Metric Tons	CH_4 - Methane
	Metric Tons	N_2O - Nitrous Oxide
	Metric Tons	HFC-23 - Hydrofluorocarbon gases
	Metric Tons	CF4 - Perfluorocarbon gases
	Metric Tons	SF_6 - Sulfur Hexafluoride

0.42 mT saving

Calculate

*If your estimated emissions of methane, nitrous oxide, or other non-CO_2 gases are already expressed in CO_2 equivalent or carbon equivalent, please enter your figures in the row for CO_2 or carbon equivalent.

Equivalency Results

CO_2 emissions from

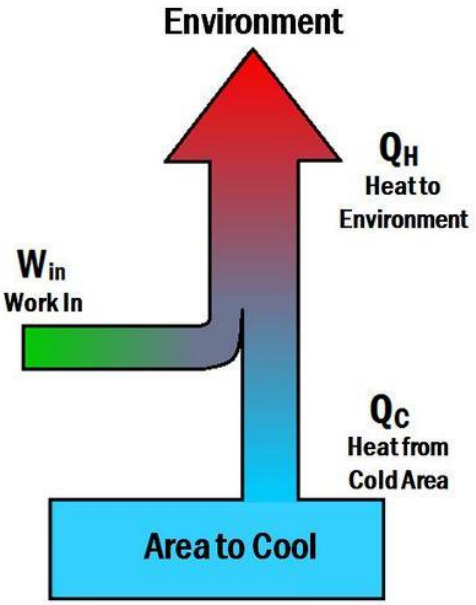
0.128 passenger vehicles	179 litres of gasoline consumed	0.006 tanker trucks' worth of gasoline	0.098 homes' energy use for one year
0.28 homes' electricity use for one year	0.947 barrels of oil consumed	17.5 propane cylinders used for home barbeques	

Greenhouse Gas **Equivalencies Calculator**

1%

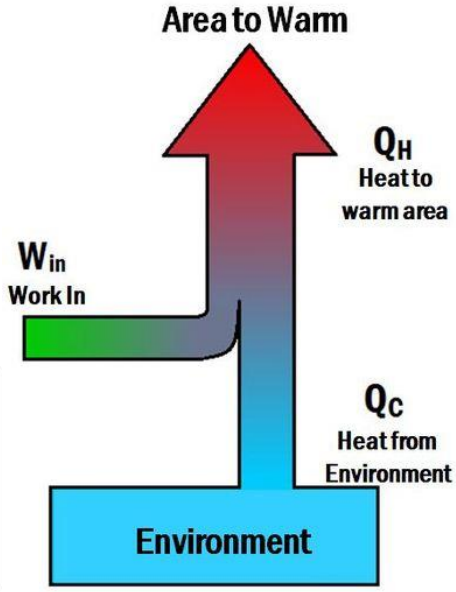
Total GHG Reduction!!!

COP (Coefficient of Performance)



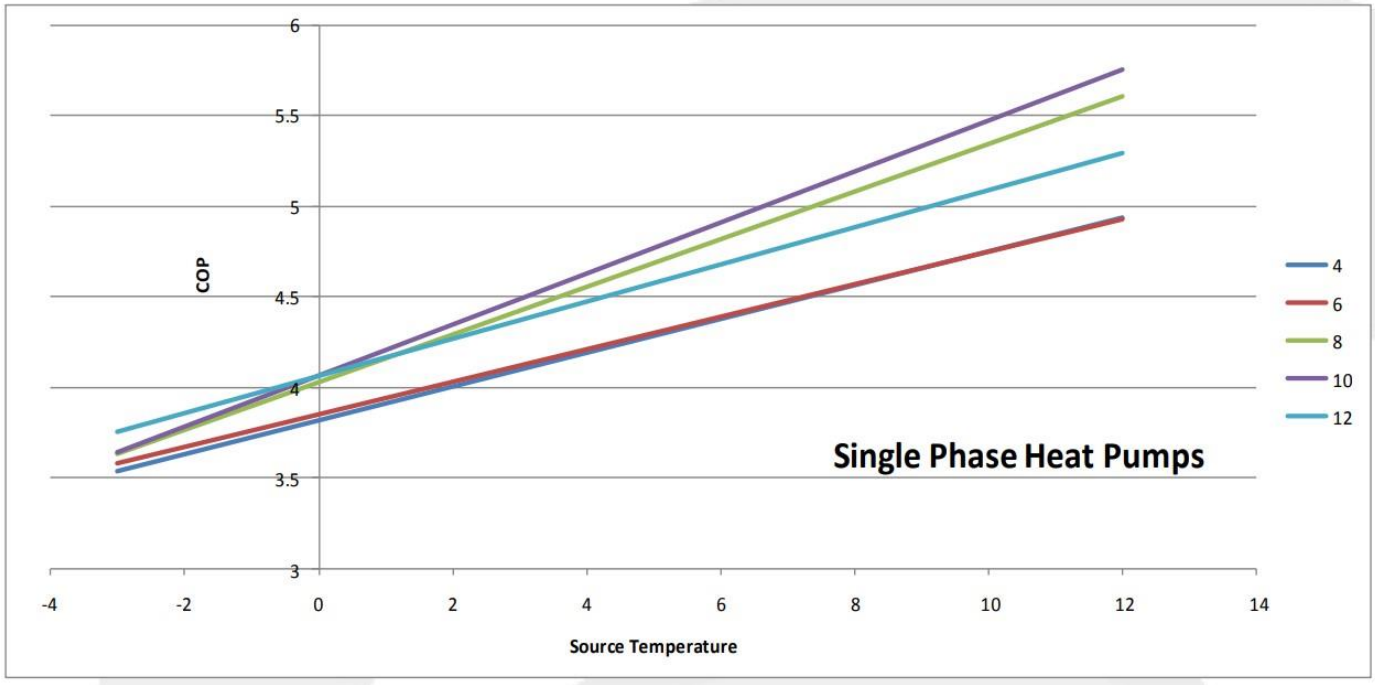
Cooling Coefficient of Performance

$$K_C = \frac{Q_C}{W_{in}}$$



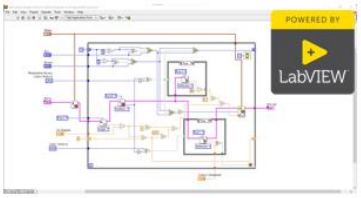
Heating Coefficient of Performance

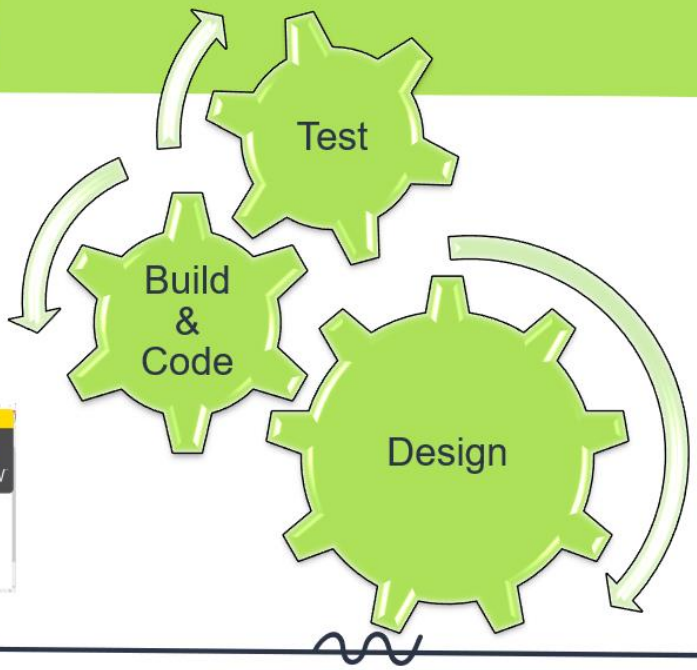
$$K_H = \frac{Q_H}{W_{in}}$$



Design Process

slack





GitHub

Solvers of

Scaled Error (Line Detection Correction)

2000 rotation + 2% error

200 rotation + 2% error

4 << 40!

Solvers of

Chassis

- Compact
- Sturdy

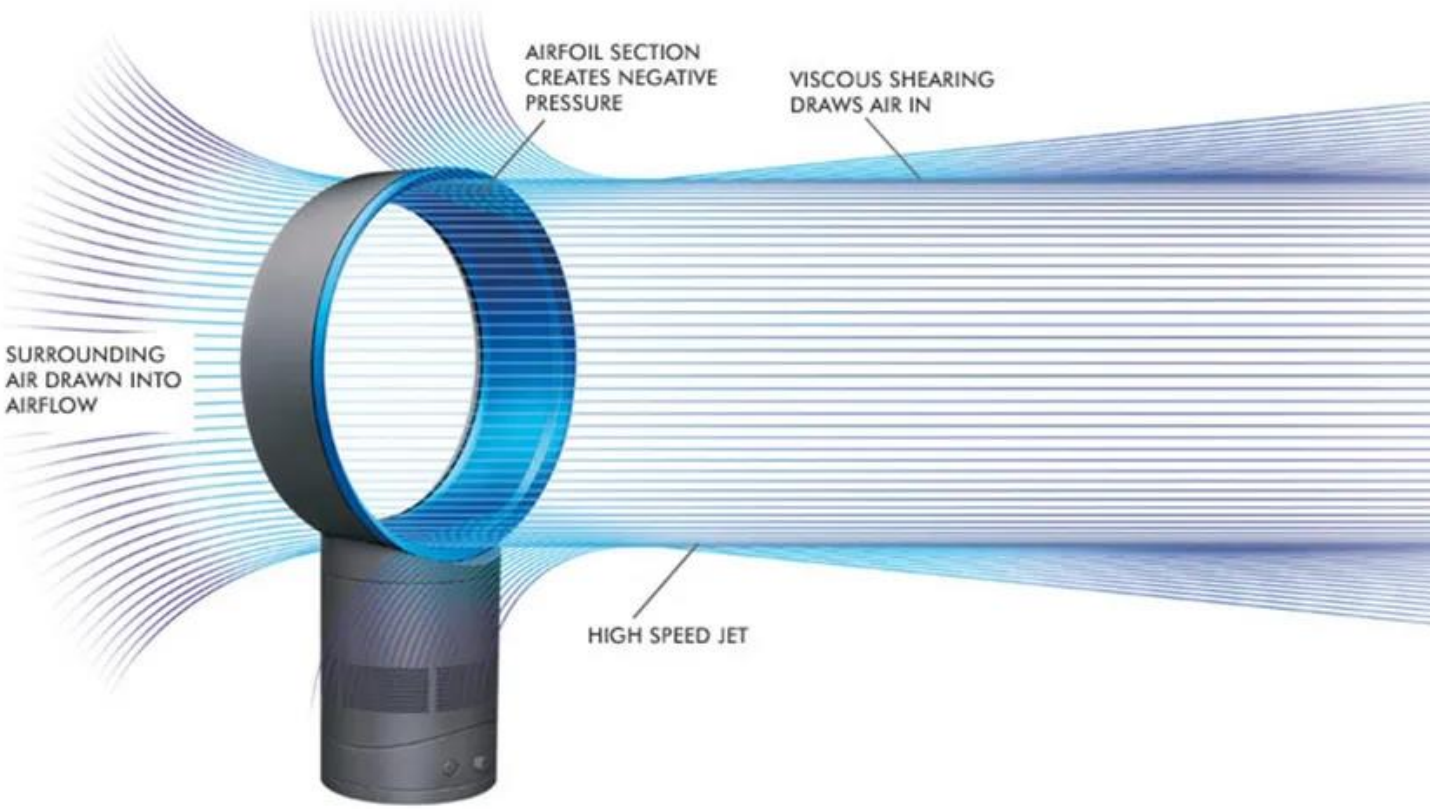
Attachment

- Innovative
- Forklift & dumper
- Passive & active
- Parallelogram
- Multi-tasking

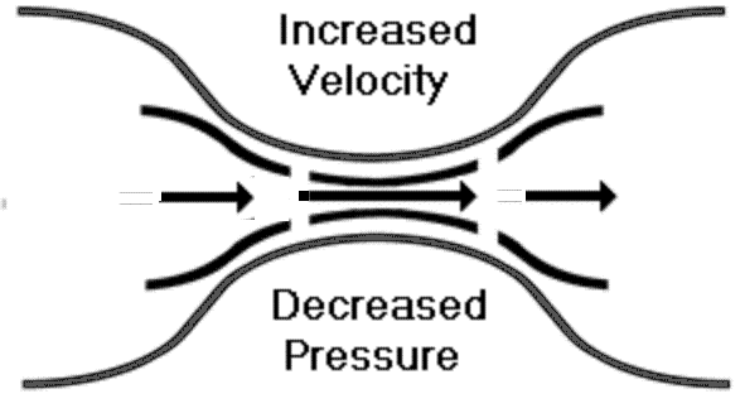
Funnels

- Accuracy

To be continued…

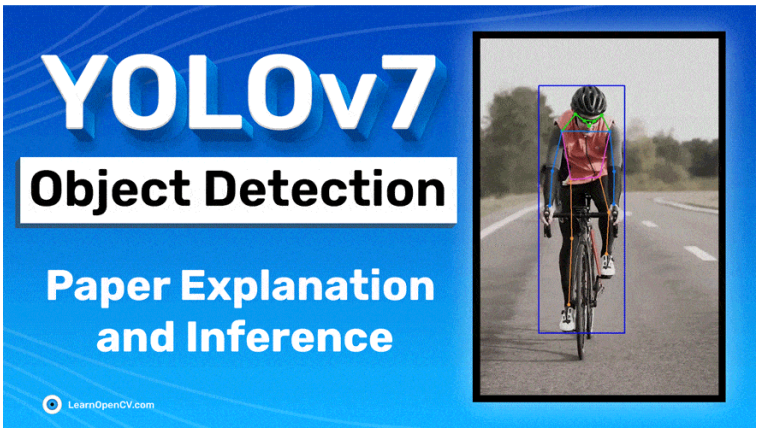


Where physics always helps…



Bernoulli's principle

To be continued…



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