

# Fesl – Autonomous Outdoor Rover

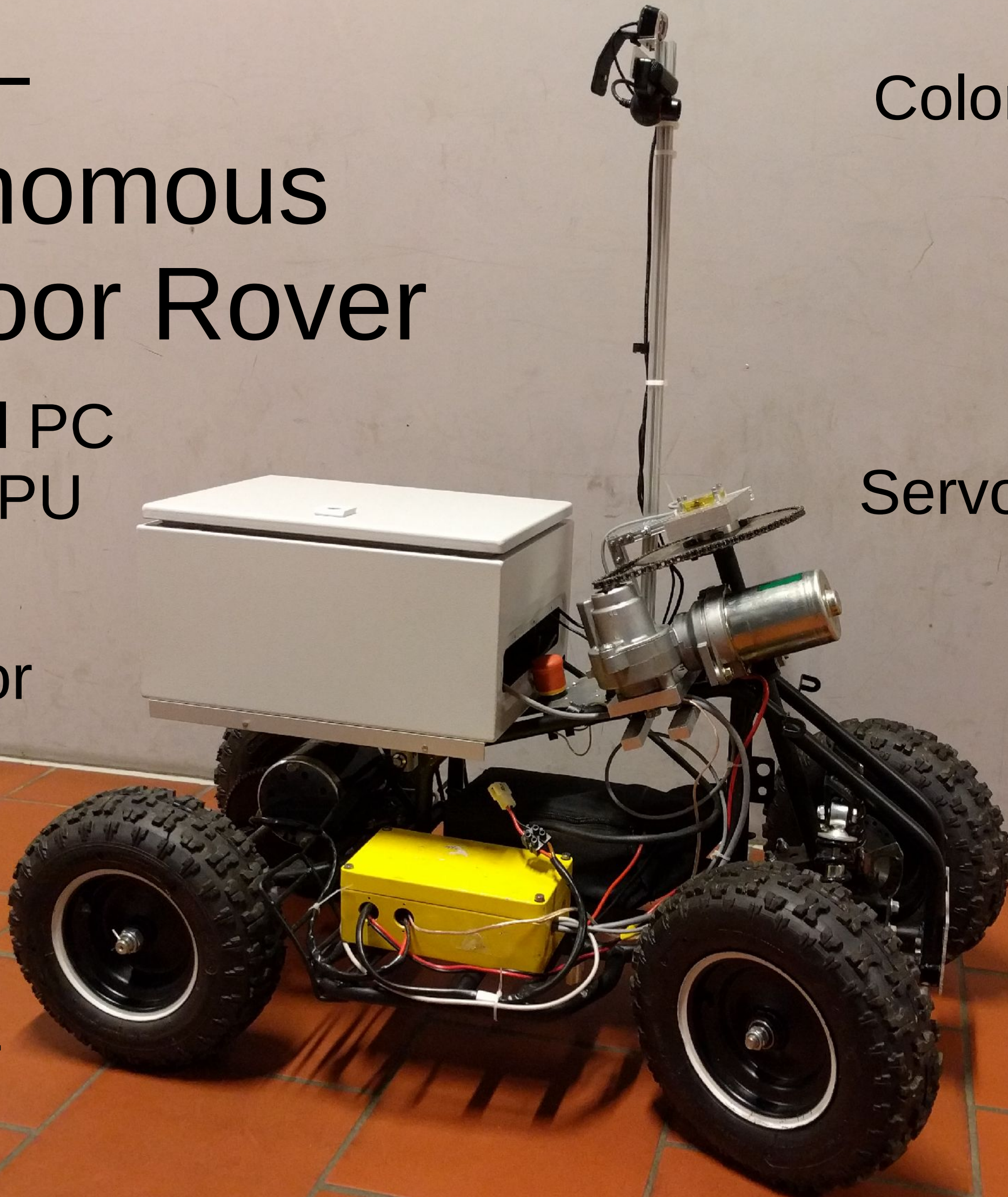
Industrial PC  
Nvidia GPU

DC-Motor

Motor +  
Servo  
controller

Color Camera

Servo steering



# Computing Unit

Industrial COM Express Module

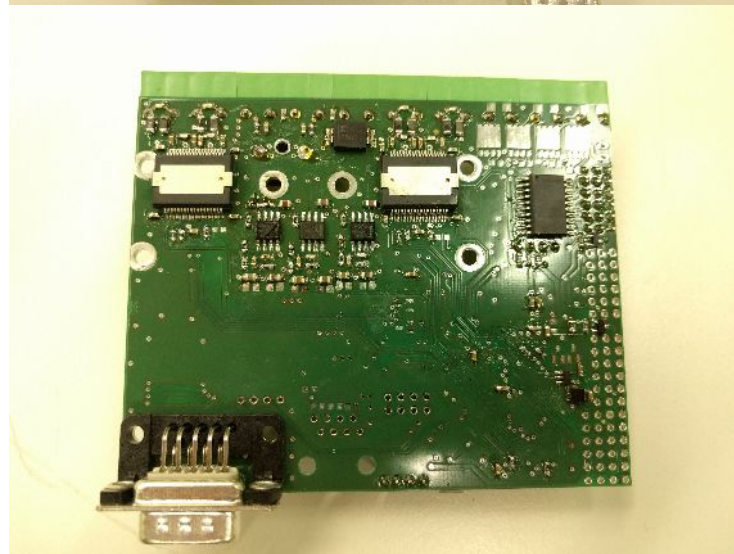
- 6<sup>th</sup> gen Core i7 CPU
- 8GB DDR4 RAM
- 64GB SSD

Nvidia GTX 960 GPU

- 4GB Videomemory
- 2.7 Tflop/s

200W DC/DC Converter

Hacked Nvidia Shield (Tegra X1) as coprocessor



## Motor and Servo controller

Custom PCB

STM32 F4 Microcontroller

Two 14Amp Motordrivers up to 52V

RS232, RS485, CAN, USB

Killswitch

Safety functions

Current and voltage monitoring

# Software Architecture

OS:  
Ubuntu 14.04

Frameworks:  
OpenCV  
Caffe  
Qt  
No ROS! ;-)

