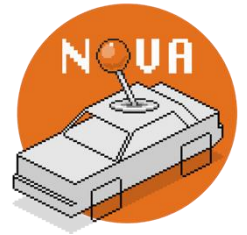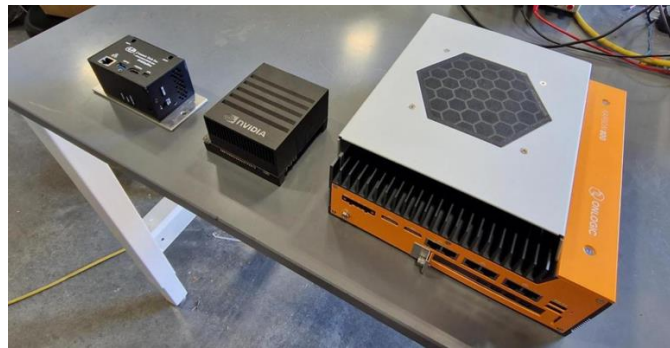# 2023-2024 Year Plan
Hail Bopp (Vehicle)
By Daniel Vayman

2022-2023 result

Above: Lineage of our vehicle computers

Last year, our vehicle technicians introduced a plethora of hardware, firmware, and electrical features that were paramount to the success of Nova as a whole. Many features of which were directly responsible for our ability to autonomously navigate Hail Bopp on roads.

Achievements:

- Fabricated new roof hardware mount.
  - Positioned both 16R Lidars at the front.
  - Mounted new GNSS RTK
- Developed and calibrated EPAS and Linear Actuator interface software
- Developed and tested MCU firmware
- Achieved throttle-by-wire
  - Circuit contains a kill switch
  - Interfaces with our MCU but allows manual bypass
- Installed dashboard monitor for real-time visualization.

2023-2024 plan

     This year, we'll continue adding features to the vehicle emphasizing **durability, simplicity, safety, and scalability**, solving previous issues, and enhancing vehicle systems. As nova plans to grow its capabilities and services, we need vehicle hardware, firmware, and electrical systems that support the scale of the organization.

Key Features

- Front rack
- Mounted & programmed LED Matrices (front, rear)
- Permanent On-board Computer (OBC) Mount
- Permanent monitor mount
- Central Roof Rack
    - Will hold new 128R Lidar, GNSS RTK, and other hardware
- Advanced throttle-by-wire system
- Overhauled braking system