**two main missions:**

* Integrate a camera to the autonomous driving car.
* Detect obstacles, Road Signs/Lights Detection and Steering Angle Computation using Computer Vision

**HARDWARE ARCHITECTURE**

sensors

Different sensors can detect the same obstacle with different pieces of information about it.

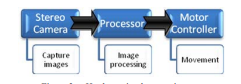
1. Lidar
2. Radars
3. Camera (**Stereo Vision)**

**The post-correspondence problem is an undecidable decision problem that was introduced by Emil Post in 1946.**

The corresponding two images representing the same point of the scene is called disparity matching.

**The matching problem refers to the problem of determining which parts of one image correspond to which parts of another image.**

**^**EL Post (1946). "Une variante d'un problème récursivement insoluble" *(PDF)* . Taureau. Amer. Math. Soc . **52** : 264-269. doi : 10.1090 / s0002-9904-1946-08555-9



The Solution of Stereo Correspondence Problem Using Block Matching Algorithm in Stereo Vision Mobile Robot

1. **Bref comparaison between LIDAR, camera and Radars**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Lidar** | **Camera** | **Radar** |
|  |  |  |  |
|  |  |  |  |

Processor

Motor controller

ARCHTECTURE OF THE VEHICLE

Image processing

**Introduction to Computer Vision for Self-Driving Cars**

https://www.seeedstudio.com/blog/2019/12/24/what-is-accelerometer-gyroscope-and-how-to-pick-one/