**Perception/Sensor Engineer**

*Autonomous Systems Interview Practice project*

**Required Question**:

Explain a recent project you've worked on. Why did you choose this project? What difficulties did you run into this project that you did not expect, and how did you solve them?

**Follow up**: What changes can be made if you would like to improve upon the results?

**Selected Questions**:

1. What are some of the advantages & disadvantages of cameras, lidar and radar? What combination of these (and other sensors) would you use to ensure appropriate and accurate perception of the environment?

**Follow up**: Discuss a method to use a combination of data from the sensors for accurate perception.

1. Describe the overall process of how a basic Kalman Filter works. Where might a basic Kalman Filter be less than sufficient? How can you improve the basic algorithm to improve performance in such a situation?

**Follow up**: What happens when the measurement data obtained is very uncertain or noisy?

1. **[Code]** Explain the steps behind how an Extended Kalman Filter is implemented.

**Follow up**: How does the EKF implementation in response to question (3) change, when there is a non-linear model used in the prediction step?