**Homework #3 Report  
[EECN30168] Self-Driving Cars 2022**

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1. **Introduction**

In this homework, our goal is to understand Kalman Filter, and implement the Kalman filter through our own understandings. This may sound a bit simple, since we could have done this by simply call the Kalman filter from the FilterPy library. However, in this homework, we could only use NumPy and standard libraries of python.

1. **Code Explanation**
2. **Result**
3. **Design of the Covariance Matrices (Q, R)**
4. **Affection of the value of Q & R**