CSE 490R Reflection

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To wrap up this course, I will reflect on the two main component, namely lectures and assignments.

I didn't attend the lecture very often, especially at the second half of the quarter. But from what I have experienced, the content nicely follows the natural intuition when solving a real-world problem, making the motivation and key concept clear and the math derivation easy to understand. Many references to original paper and further topics were also mentioned and included in the slides. Frankly speaking, I think this part of the course is of very high quality.

As for the assignments, this is where I put most of the effort on. Most of them allow me to review and apply the most important concept from lecture. However, from my perspective, sometimes the provided starter code has undesired design issue which lead to lower extensibility and reusability of code, like the inclusion of publishers in SensorModel and MotionModel, which can be written in ParticleFilter, the actual ROS node. This makes it harder to implement some additional work, such as global localization utilizing sensor input and raycasting interface in a controlled manner, as oppose to relying on the callback that is invoked every time a scan is received, which is used by the usual particle filters. Another phenomenon I observed is the key part of a system is often already provided, such as the main routine of ParticleFilter, controlnode, and A*. Since not everyone examine the provided code, this cause some people's confusion of how each part integrates together. I think the code for some assignments can be reorganized to allow students to implement more main idea nearly from scratch.