Project IT 0
Due date: March 10

Prepare a problem definition for your project and a potential outlining of solution approaches that you will iterate during the semester.

Our goal is to accomplish the following:

1. Clearly outline the autonomy problem. Provide higher level context for the need to solve the problem. Identify the state space, the action space, the transition function, and the utility/reward function
2. Point out and review relevant literature
3. Present a number of potential approaches and compare them
4. Identify the limits of the existing approaches
5. If an existing solution method will provide a satisfactory answer then lay out the implementation details. If no existing solution method works, then propose new solution technique.

Deliverable:
I am expecting a report that is between 2-6 pages long, with figures, and references. The report should have the following sections:

Section 1: Introduction and problem motivation

Section 2: Limits of current practice

Section 3: Background literature and state-of-the-art

Section 4: Your solution method and contributions

Citations should be in IEEE format, e.g. http://www.ijssst.info/info/IEEE-Citation-StyleGuide.pdf. I always suggest that scientific documents are written in latex, but you can choose to use word or whatever text editor suits your fancy.

Heilmeir Catechism:

In preparation of IT 0, we are inspired by the Heilmeir Catechism: George H. Heilmeier, a former DARPA director (1975-1977), crafted a set of questions known as the "Heilmeier Catechism" to help Agency officials think through and evaluate proposed research programs. This catechism is equally useful in preparing scholarly articles or proposals:

- What are you trying to do? Articulate your objectives using absolutely no jargon.
- How is it done today, and what are the limits of current practice?
- What is new in your approach and why do you think it will be successful?
- Who cares? If you succeed, what difference will it make?
- What are the risks?
- How much will it cost?
- How long will it take?
- What are the mid-term and final "exams" to check for success?