

CSci 543. Advanced Artificial Intelligence

Instructor: Dr. M. E. Kim

Date: Oct.3rd, 2017

Submission of Proposal & Team Members: 3:00 PM, October 24th (Tue.)

Deadline of Paper: 12:00 PM, December 8^h (Fri.).

Formal Presentation: TBD. Will be given during the week of final exam.

Term Paper/Project

I. Topics:

1. *Intelligent Agent of Probabilistic Reasoning using (Dynamic) Bayesian Network, Learning and/or Decision Making.*
 - A. Survey of the studies that apply *Probabilistic Reasoning with (Dynamic) Bayesian Network, Statistical Machine Learning* and/or in *Decision Making with utility theory*.
 - B. Your own research/project topic that applies (Dynamic) Bayesian Network, (Statistical) Machine Learning and/or Decision Making with probability theory and utility theory.
 - C. Design (and implementation) of your own agent system in a certain application domain, employing (Dynamic) Bayesian Network and/or Decision Making with probability theory and utility theory.

II. Paper:

1. Your paper should be a *publication quality*: 6 – 8 pages. (the number of pages of figures/tables should not exceed 2 pages.)
2. Use the given IEEE template.

III. Note:

1. For the above topics, it may be conducted as a group work of 2 – 3 members: no more than 3 people.
2. No topic in simple deterministic game with no probability/decision making is acceptable for (2B): e.g.) tic-tac-toe, connect-4, etc.
3. For (I.B), your own research topic may be taken for this paper only if it deals with (Dynamic) Bayesian Network, Machine learning and/or Decision making.
4. The given topics are the primary methods, but other computing paradigm or algorithm which is beyond the scope of this course may be used as a supporting method, not the primary.