

WEEK 1 ASSIGNMENTS:

Monday, 3/30/09

For Wednesday (4/1/09), READ following paper on neural networks / control systems:

Lewis, F. L., "Neural Networks in Feedback Control Systems", *Mechanical Engineer's Handbook*, John Wiley, New York, 2005

The following material is available on the course Web site for supplementary reading if you desire. These comprise early comments about neural networks for control.

- a.) Barto, A.G., "Connectionist Learning for Control: An Overview", Ch. 1 in *Neural-Networks for Control*, Miller, Sutton & Werbos, Eds, MIT Press, pp. 5-58, 1991.
- b.) Werbos, P.J., "Overview of Designs and Capabilities", Ch. 2 in *Neural Networks for Control*, Miller, Sutton & Werbos, Eds, MIT Press, pp. 59-66, 1991.

Wednesday, 4/1/09.

For Monday 4/6/09, READ the following chapters on Adaptive Critic methods, available on course Web site.

Lendaris, G.G. & T.T. Shannon, 1998, "Designing (Approximate) Optimal Controllers via DHP Adaptive Critics & Neural Networks", Draft of Invited Chapter for *The Handbook of Applied Computational Intelligence*, CRC Press, Padgett, Karayianis, & Zadeh, Eds. [book not published].

Lendaris, G.G. & J.S. Neidhoefer, 2004, "Guidance in the Use of Adaptive Critics for Control," Ch. 4 in *Handbook of Learning and Approximate Dynamic Programming*, Si, et al, Eds., IEEE Press & Wiley Interscience, pp. 97-124, 2004.

NOTE: There is substantial overlap between the two chapters. The 1998 reading has a more introductory bent; the 2004 reading adds in more recent results.

WEEK 2 ASSIGNMENTS:

Monday, 4/6/08.

For Wednesday 4/8/09, READ the following two papers:

- 1) Lendaris, G.G., "Higher Level Application of ADP: A Next Phase for the Control Field? *IEEE Trans. on Systems, Man, and Cybernetics-Part B*, vol 38, no. 4, Aug 2008.
- 2) Lendaris, G.G., "A Retrospective on Adaptive Dynamic Programming for Control", to appear, IJCNN 2009 (shorter w/similar content to 1).

**REMINDER: Preliminary proposal for your term project is due on Wednesday 4/8/09
(I will provide feedback by Monday, 4/13/09.**