Topics for ECE750/SDE625

Articles Analysis and Synthesis

- Each group of students will tackle one topic given in the next table. Output material will be written in 8-10 page report following the format suggested by the instructor (in word or in latex). For each topic students will also have to prepare 25-35 page slide material. Please follow the font sizing and the formatting given in this link. A sample article is here.
- Example(s) have to be duly prepared by the students themselves to illustrate the topic. Students may use Matlab software to carry out simulation. Students can be inspired from existing examples in textbooks or other published material, but they have to be different.
- Possible material that could be consulted:
    - IEEE Transactions on Evolutionary Computing, IEEE Transactions on Neural Networks, IEEE Transactions on Fuzzy Logic, or any other journals in the field
    - The textbooks that have been recommended in the course syllabus
    - Other textbooks and journals in the field
- The more recent is the reference material the better it is for your report (other than the historic part).
- Presentation are 20 minutes each and with 5 minutes Q/A. Before their presentations, each group will deposit the material (ppt file) in the ftp site. All articles (pdf, doc,zip, and code) should be deposited before the last lecture of the course scheduled on July 18 at 10 am.
- The name of the document to be uploaded should be review_group#.doc, review_group#.pdf, and review_group#.ppt respectively. For example the documents to be uploaded in the ftp site for members of group #1 of should read as: review_group1.ppt, review_group1.doc and review_group1.pdf. The upload ftp site is located at ftp://pami.uwaterloo.ca (username:ece750s10; password:750s10). Use a dedicated ftp program such as the ftp explorer (rather than using IE or web browser). Note that files you upload should be in the correct directory. Files that you upload will be hidden as soon as you upload them.

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Topics	***Students/Date of Presentation***
Fuzzy Set Type 2; Literature review, theory, applications, example(s) G (1)	Amr Said Hatem Sindi **July 6, 2012**
Intelligent Human Machine Interaction using tools of soft computing, literature review, theory, tools, example(s) G (2)	Mulay Harshward Li Ruilin **July 13, 2012**
Dynamic and Recurrent neural networks, literature review, theory, applications (control, prediction, chaos), numerical example(s) G (3)	Yanxin Wang Keyvan Golestan **July 6, 2012**
Evolutionary computing: Swarm intelligence, Particle Swarm Optimization, literature review, theory, applications, numerical example(s) G (4)	Andre Kurniawan Michael Chi Kam Chun **July 20, 2012**
Evolutionary computing: Genetic programming and evolutionary programming, evolutionary strategies literature review, theory, applications, numerical example(s) G (5)	Michael Mansour Wael Taha Ghareeb **July 13, 2012**
Hybrid Techniques: Neuro-Fuzzy; Fuzzy Genetic; Neuro-Fuzzy Genetic; literature review, theory, applications, numerical example(s) G(6)	Peyman Karimi Iskandari Sepideh Afshar
Support Vector Machine; literature review, theory, applications, numerical example(s) G (7)	Jennifer Howcroft Elham Akharan Rezai **July 6, 2012**
Decision Tree and Random Forest Classification: literature review, theory, applications G (8)	Maher AlMahr Fatma Kiraz **July 20, 2012**
Hybrid and Modular Neural Network, literature review, theory, applications, numerical example(s) G (9)	Verma Rohit Nimesh Patel **July 20, 2012**
Gaussian Mixture Models based Classifiers literature review, theory, applications, numerical example(s)G (10)	Omar Faqhruldin Linag He **July 13, 2012**
Major data clustering Techniques: literature review, theory, applications, numerical example(s)G (11)	Ali Karaki Agarwal Nitish **July 20, 2012**
Dimensionality Reduction in Pattern Analysis literature review, theory, applications, numerical example(s)G (12)	Ahmed ElGohary Abdullah Rashwan **July 13, 2012**
Pattern Classification: Statistical vs. Neural Based Approaches: literature review, theory, applications, numerical example(s)G (13)	Celine Craye Aron Su **July 6, 2012**