

# *COMP / ELEC / STAT 602*

## **Neural Machine Learning and Data Mining II.**

<http://www.ece.rice.edu/~erzsebet/NMLcourseII.html>

Advanced topics in Artificial Neural Network theories, with a focus on learning high-dimensional complex manifolds with neural maps, both unsupervised and supervised paradigms (Self-Organizing Maps and variants, Learning Vector Quantization variants).

Application to data mining, clustering, classification, dimension reduction, sparse representation. Comparison with "gold standards" on data of various complexities. The course will be a mix of lectures and seminar style discussions with active student participation based on recent research publications and simulation experiments. Strong coding skills in MATLAB, R, or C are assumed. Students may also have access to research software environment to do simulations.

