

ENEE434 Spring 2003 Final Exam Study Points

1. The final exam will be Tuesday, May 20, 2003, 10:30-12:30.
2. It will be open book, open notes, worth 100 points.
3. We anticipate it to have three problems including the concepts:
 - a. Hopfield networks
 - b. A radial basis network following ideas of the paper presented by Mei Lee.
For this note the Matlab functions

$$\text{dist}(x - y) = \sqrt{\sum_i (x_i - y_i)^2} = \|x - y\| = \text{Euclidean distance}$$

$$\text{radbas}(n) = e^{-n^2}$$

and create the function similar to that of the paper $R(x,c,\sigma) = \exp(-(\|x\| - c)^2 / \sigma^2)$ by using weights of $1/\sigma$ on the inputs through the `dist(.)` function, followed by the bias $-c/\sigma$, into the function `radbas(.)`.

- c. A network following ideas of the paper presented by Aushkon Forouton.
- d. Properties of different activation functions including `hardlim(.)`, which is the unit step function, and `satlin(.)`.
- e. Energy functions - Euclidean metrics and Lyapunov functions.

Notebooks are due at the end of the final exam.