

# CS790S Research Seminar on Neural Networks

## Fall 2014

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### TextBooks

- None

### Preliminary Syllabus

We will read several papers on neural networks, machine learning, machine vision, evolutionary computing, and smart environments. Our main goal is to use new sensors and interaction modalities to instrument and convert the Evolutionary Computing Systems lab into a smart environment. We would like to provide a set of tools (code) that allows the smart environment to be able to

1. 1. Recognize who is in the room and learn to load an appropriate, context-sensitive environment
2. 2. Recognize command gestures and keywords for interaction with the five large displays in the room and
3. 3. Recognize gestures that deal with the control of simulation or real environments with large numbers of heterogenous entities

We have and will have the following non-inclusive set of resources to use: 5 large displays, 2+ kinects, 1+ kinect 2s, Structure sensors, Leap motion controllers, Tablets, Cameras, Microphones, Speakers, Google chromecasts, Oculus Rift, AR-Drones (and others).

We will work as a group, or in groups, depending on your current expertise and interests. Each week we will read, discuss, and present research papers from journals and conferences. Your first assignment is to find, get approved, disseminate to the rest of the class, and be ready to discuss a research paper that aligns with your research interests and this class's topic. This is due Wednesday, September 3, 2014.

Project presentations will be at the end of the semester.

I hope for and expect much discussion.

Your grade will depend on your presentations, project contribution, and project reports. (25%, 25% and 50% respectively). I will expect to see you after each presentation to discuss the presentation. Any person or group producing publishable work gets an automatic A.

### Communications

If I need to communicate with the class as group I'll be using email. Please check your email often. The class web page will be at <http://www.cs.unr.edu/~sushil/class/790S/index.html>