Course Project Information Sheet

EECS 395/495: Machine Learning: Foundations, Applications, and Algorithms

General description: The course project provides an oppurtunity for teams (**maximum 4 members**) to investigate and play with machine learning concepts learned in class, or of their own personal interest. The only general suggestion we have is that you choose a topic you find fun or interesting. Some ideas for potential topics include:

- **applications**
  - (computer vision) build an object detector from scratch (to detect e.g., faces, or pedestrians, street signs, etc.,)
  - (medical sciences) generate a model to make health-outcome predictions based on genetic or forms of personal data
  - (finance) generate a model to make reasonable predictions of the price of a financial product (e.g., an option)
  - (entrapenureal) produce an idea for a consumer product that has a significant machine learning component
- **technical**
  - work on a piece of your own research
  - investigate topics from the course more thoroughly and produce interesting demonstrations showcasing how the concept works
  - investigate topics from outside the focus of this class and produce interesting demonstrations showcasing how the concept works

All projects must have a significant coding or implementation-based component to them on the part of the team. **All projects must be coded in MATLAB**, this is both so that your work may be graded fairly and so that other students from the class can see and understand what you have done.

Project deliverables (what your project will be graded on):

1. A short writeup summarizing what your team has accomplished (**maximum length 5 pages including all figures and bibliography**). This can include reflections, things that failed/succeeded, etc.,

2. At least one clean and clearly commented **demo file written in MATLAB** that can be easily used (i.e,. we must be able to simply press run and the code should run properly) by the instructors and other teams in the class, as well as your team when presenting your work during the course demo-day. **This demo must actively run at least one machine learning algorithm your team has written**.

3. A **5 minute presentation** showcasing your team's project and demo during 'demo-day' to be held the final week of classes.

Project proposal: A short description of a topic your team is thinking of investigating in a **maximum of 1 page including illustrations and bibliography**, **due Monday Feb 9**.