**Project Proposal**

**CS445 Spring 2018**

Who: Chuck Anderson (list all team members)

For my project, I will apply the reinforcement learning (RL) algorithm called Q-learning using a neural network. I will use RL to learn how to negotiate trade agreements between a subset of the countries of the world. My implementation will be based on the Q-net implementation provided during lectures and developed during our final assignment.

In my report, I will

* describe all algorithms and code used,
* describe the data and simulations used,
* explain all experiments that I ran, including variations in parameter values,
* include plots of results most relevant to my conclusions related to parameter values and outcomes related to the objective of this project,
* describe some of the more challenging aspects of the project and how I dealt with them,
* summarize what I have learned from doing this project, and
* what next steps I would take if I were to continue working on this project after the semester ends.

I will monitor my progress on this report by following these milestones.

* April 13: Identify which countries I will include.
* April 20: Complete my simulation of trade negotiations among these countries.
* April 27: Complete initial attempts at applying RL to choose options in simple negotiations.
* May 4: Using what was learned from initial RL experiments, design and conduct more in-depth RL to learn complex negotiation strategies.
* May 7: Complete draft of project report.
* May 9: Check-in final project report.

If this is a team project, include at least two sentences for each team member that describe what each team member will be responsible for. Only one member of your team must check in the proposal.

Check in your proposal as a PDF file!