

# Machine Learning Final Project

# Final Project

- Final Project Presentations
  - Thursday, December 7<sup>th</sup> – 5:30pm – 8:00pm
- Worth 200 points
  - Multiple Milestones
  - Details posted on Canvas

# Outline

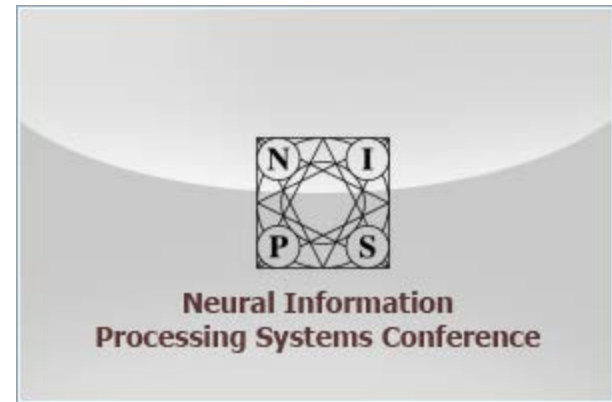
- Pick a project
- Explain it to me
- Start Project
- Finish Project
- Explain it to the class

# Project Ideas

- Feel free to use any of the ideas provided
- Check out other student projects for inspiration
  - <http://cs229.stanford.edu/projects2016.html>
  - [http://www.cs.cornell.edu/courses/cs6780/2010fall/projects\\_2010.html](http://www.cs.cornell.edu/courses/cs6780/2010fall/projects_2010.html)
- Choose your own
  - it must be of the same scope









# Extend Recent ML Paper

- Find a recent paper at ML conference
  - Do it better
  - Venues: NIPS, ICML, ICLR



# ML Competition Problem

- Take on a ML Competition (e.g., Kaggle)
- Options
  - Design a competitive algorithm!
  - Compare and contrast multiple methods for the problem
- Be sure to check start/end dates

	<b>Flight Quest 2: Flight Optimization</b> Optimize flight routes based on current weather and traffic.	3 months Coming soon \$220,000
	<b>Belkin Energy Disaggregation Competition</b> Disaggregate household energy consumption into individual appliances	28 days 105 teams \$25,000
	<b>Personalize Expedia Hotel Searches - ICDM 2013</b> Learning to rank hotels to maximize purchases	33 days 183 teams \$25,000
	<b>StumbleUpon Evergreen Classification Challenge</b> Build a classifier to categorize webpages as evergreen or non-evergreen	29 days 412 teams \$5,000
	<b>See Click Predict Fix</b> Predict which 311 issues are most important to citizens	56 days 20 teams \$4,000
	<b>Facebook Recruiting III - Keyword Extraction</b> Data Scientist at Facebook Menlo Park, CA	2 months 122 teams Jobs
	<b>Accelerometer Biometric Competition</b> Recognize users of mobile devices from accelerometer data	51 days 222 teams \$5,000
	<b>AMS 2013-2014 Solar Energy Prediction Contest</b> Forecast daily solar energy with an ensemble of weather models	44 days 114 teams \$1,000

# Other Project Ideas

- Movie recommendation
- Detect Wikipedia vandalism
- Speaker detection from transcribed text or recorded speech
- Predict OSCAR winners
- Stock market predictions
- Reinforcement learning to train an agent to play a game
- Image recognition / identification
- Music classification

# Project Proposal

- Project idea
- Data set description
- Software you will need to write and libraries you will use
- Evaluation method
  - This is important
  - Plan ahead



# Additional Information

- Research-related projects
  - Should be something you're not already doing
  - Ask me first
- Projects from Other Courses
  - Can \*NOT\* “double dip” with projects from other courses (e.g., Computer Vision)
- Programming Language
  - Languages other than Python may be allowed for a valid reason (e.g., mobile application)