Final Projects

Final project

- Group composition
  - 2-3 students per group
  - collaborative development using version control (GIT) is required
- Deliverables
  - progress report (Nov 14th) - PDF
    - **problem and dataset clearly defined**
    - any preliminary results/experiments (recommended but not required)
    - **plan for next steps**
  - final report (Dec 11th) - PDF
    - enhanced progress report + full details on experiments and analysis
    - must include a link to a GitHub repository with all the code
  - class presentation (Dec 12th @ 2p) - PDF

Topics

- Implement an interesting machine learning application
- Reproduce the results of a recent academic paper
- Tweak an existing ML solution for an specific problem
- Your own graduate/undergraduate research

Final Project

- Considerations
  - pick a publicly available dataset (can also collect your own)
  - define your ML goals and methods
  - pick a good framework and learn it
- Resources
  - visit cs229 project list (http://cs229.stanford.edu/projects.html)
  - visit SOTA (https://paperswithcode.com/sota)

Outstanding projects

- **Demonstrated knowledge** of ML
  - theory/practice
- Significant implementation effort
  - awesome final product, produces at least one WOW
- Novelty
  - can't find this online
- Use of interactive tools such as:
  - huggingface, gradio, weights & biases etc.

straight A in this course

Progress report structure

- Title
- Team members
- Introduction
  - provide context and existing work for the problem
- Problem Definition
  - precisely define what is the goal of the project
- Data
  - provide detailed description of data
- Methods
  - provide a clear pipeline of the methods used for solving the problem
- Preliminary Results (optional)

Final report

- Title
- Team members
- Introduction
- Problem definition
- Data
- Methods
- Experiments and analysis
- Conclusion