CS574 Project Update 1
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Brain Tumors with Deep Learning

Our group has accomplished the following:

- Gained access to data from Dr. Gutman (full access has now been acquired).
- Gained access to the data from Lee Cooper.
- Met with both Lee and David to discuss both datasets and the general motivation behind brain tumor analysis and predictions.
- Chosen third-party libraries and tools to use for parallelization, deep learning, visualization, and so on. The libraries we're using so far:
  - Theano (for deep learning)
  - NiPype (for parallelization in particular)
  - git (for version control)
  - fsl-view and matplotlib (for visualization)

  We have recommendations for other libraries and tools from Dr. Gutman as well, but are less certain of whether or not we will end up using them.
- Collected papers to discuss on past brain tumor work and previous deep learning work.

Based on when our project started, we're just entering week 5. From our project proposal, this puts us almost entirely on-time with our work so far. To have all of our current work completed, we need to

- Have a proper discussion of the literature we've collected (although this is not necessary for the beginning implementation, it will be beneficial quickly).
- Plan out our implementation more completely than the precursory discussions we've had so far.

The next step for our project is to begin the basic implementation, including loading the data in Python, starting to use Theano for deep learning, and to make sure that the tools we're using are sufficient for the project. We've already begun to check our tools (for example, we decided that `scikit-learn` wasn't going to work), but some of the third-party libraries have not yet been evaluated. This precursory implementation is planned to be done by the end of next week, and the full implementation is planned for the weeks following.