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Final Project Prospectus

Geol 490

For my final project, I will create a shiny app that serves as a front end for python curve fitting function. The app will take a file upload and some numeric inputs, have an action button, call a trivial python function. The output will be a graph of the raw data as soon as it is uploaded, and it should add a fit line once the python code is returned. It will also return three numerical outputs that can be the same as the numeric inputs

**Must haves:**

- Shiny code

- Nice, clean evidence of work on github (good github repo)

**Should have:**

- Python code

- Making sure that the code runs at logical times (proper function of the “go” button to ensure efficient code)

- Clear documentation

**Nice to have:**

- Wrap it all in an R package

- Virtual environment for python that makes it run the same on different computers

Ultimately this application will serve as a great way to get valuable information from microbial growth curves. A colleague of Dr. Andrew D. Steen is currently working on formulas in python that extract information from the curves, and those formulas will replace the trivial python code once everything can come together. We believe that this application can greatly simplify data processing of microbial growth curves, which would hopefully lead to some new, interesting discoveries by preventing data processing overcomplication and mistakes.