Machine Learning 2 *(i.e. Non-formal Theoretical Machine Learning)*

This Class is Just the Beginning

Prof. John Santerre

John's Info: john.santerre@gmail.com, Calendar, Calendar Request, Capstone Warning

ML Ring Leader:

Andy Heory

ML Mentor: Programing

Stuart Miller

Mentors

David Stroud

David Josephs

John Partee

Many Many others

Welcome:

This class will be unlike all your other classes! We are training you not in how to use tools but rather exploring how the tools were designed in the first place. If you thought ML1 was perfect and you wanted more of that, you will be **surprised(and disappointed)** by the direction we are heading.

This IS NOT a hands "on course". This class isn't a lecture nor even a recitation, rather it's a tutorial or reading group where you receive access to copious material and sort through it largely on your own and at your own pace. The most successful students recognize that the end of this class is only the beginning of their education. Soon you will be responsible for learning on your own and we are trying to prepare you for that. I am trying to connect you to community resources that will help you learn long into the future. The way you do that is not by me teaching you how to run a single line of code, nor explaining a particular function, but rather by connecting what you have learned to the principles at play behind the scenes.

If this doesn't sound good to you, you have very little time to leave the class and not forfeit your money. Remember this class is *VERY optional*. This class approaches this topic the way we do in a **Ph.D. program** which is very **different** then what you have been exposed to up until now.

This class is really aimed at the more *advanced students(or those hoping one day to be an advanced student)….*

I **strongly** recommend you think seriously if this is **THE** educational experience you want for this semester....

You must come to class. You must have your video camera on. You must watch async. You must do the homework on time. I will randomly call on people for their extended opinions.

Required:

Dates: Calendar

Dates are **NOT** flexible. Your previous students have taken too much liberty and not bothered to get things in on time. The point of the class is to learn, not to have your homework in on time, yet people seem to unable to balance their commitments. If you miss a homework deadline, you will get zero and need to do make up work. Accommodations will only in extreme circumstances: death of a frog, a stub toe that blossomed into gangrene, papercut that leads to sepsis. If you would like to do something different for homework, or project or need a big change, please just ask and we'll see if we can accommodate(this is a great gift please accept it).

Website:

Gather town: https://gather.town/app/UO65TS5ZXFBJgXuh/project_nyx

Syllabi:

A syllabus exists, but the much more valuable Syllabus addendum is here.

Flipboard:

https://flipboard.com/@johnsanterre/machine-learning-ha2u24tez

Projects:

Post your project proposals here!
See previous projects here!
Ranking scripts here!

Discord:

If you aren't on Discord, you really aren't in the class. It's where work gets done.
Santerre.com~

Email:

Join this mailing list and this newsletter here

Optional

Map of ML researchers:

j's list
top 1k people in ML by citations
maneframe recommendations :

Prep Material:

for SE jobs

Advanced Material: SmmS

Recorded talks on youtube
Support material for masters Students is the place I am trying to put additional video lectures for former and current students. Right now almost nothing!

Student Moderated Resources

Deep Learning Tricks and Tips
Twitter

Project NYX

If your interest is primarily in industry, NYX hosts projects for you to simulate real world situations.

Wandering Lab:

If you are primarily interested in Research, Wandering Lab supports future PhD students on their path.

People who like this course say things like:
"I wanted to say thank you again for the course this semester. I truly feel like I gained a lot from the course. As I was reflecting back this weekend on the semester and building out my future learning plans on areas I wanted to get stronger in, I was easily able to leverage a lot of the material you provided to build out a comprehensive plan. I truly appreciate your approach to teaching and the way students still stay engaged after class. For someone who thinks of himself as a lifelong learner, the course was a breath of fresh air from the typical course. To have a professor who viewed their class as helping put students on a path and not an ends to a means just helped reinforce my learning goals."

"Many years ago when I was in college I was fortunate to have a course with a Harvard Phd. Paraphrased "Fish Story"

There was a Biology class at Harvard where the professor was known for teaching by simply drawing on the power of observation and the focus on asking questions. In a lab course at the beginning of the term he had a fish placed on each students' lab table. When the students first arrived he would greet them with "my name is Prof such and such. Everything you need to know about Biology is right in front of you and your grade is based upon a paper at the end of the semester" at that point the story goes that he left the room. At beginning of term students were confused there was no lecture or explanation of what to write the paper on. Basically his classes were the same where he would come in and ask if there were any questions and if not he would leave the room.

The interesting part of the story is what happened to the students as they were forced to study that fish that appeared in front of them every lab. The students started to look at the fish in detail and then started asking questions. Where is the fish from? What is it eat? How does it breath? How does it etc? Students would start visiting the lake where the fish was from and understand its ecosystem and the learning continued from there. The legend is that this course helped produced many leading corporate executives. As an example, lawyers who would have a contract put in front of them and they saw the contract the same way they saw the fish. In this example the lawyers would learn everything about that agreement before signing. They would visit sites, they would interview people, they would etc and ultimately they would ensure a decision benefiting the corporation resulted.

ML2 seems to be setup the same way as the Harvard Biology class. At the beginning of the class this term I was in the old mindset of being taught. I know you immediately informed us that it was how Phd's are taught but did not get my arms around it until this week. I believe I now have a full grasp of the opportunity in front of us. I thought you would be interested in this story and perhaps find it useful to share with the other students and provide a visualization on how to approach your course offering."