

Machine Learning

Project 3

Members:

'Li'u , Chris;

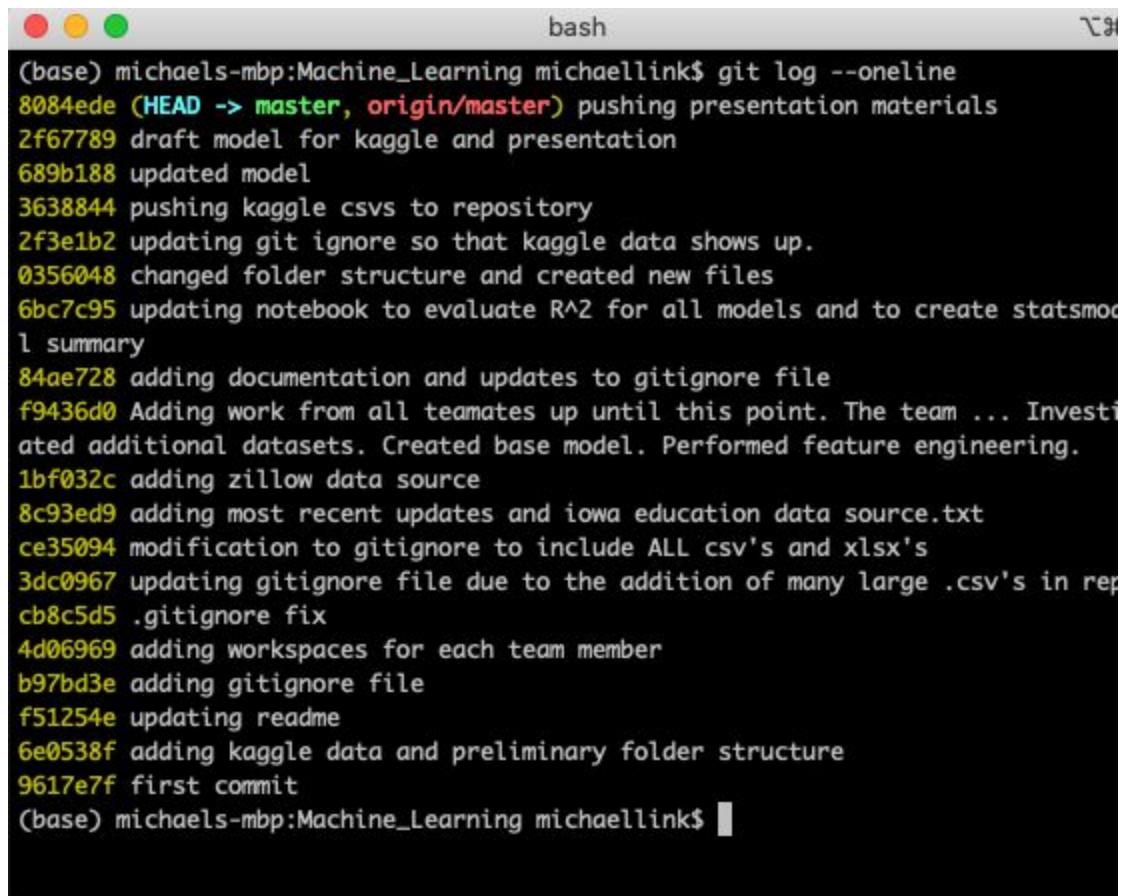
'Li'u, Peter;

'Li'nk, Michael

The 'Li'sting Agents

- **Project Submission -**

- GitHub Submission Date/Time:
 - 05/31/19 11:30 PM
- GitHub Repository:
 - https://github.com/Data-Science-Link/The_Listing_Agents
- Documentation and Presentation URL:
 - https://github.com/Data-Science-Link/The_Listing_Agents/tree/master/documentation
- Online Classroom Submission Date/Time:
 - 05/31/19 11:30 PM
- Evidence of Version Control (git log --oneline):



```
bash
(base) michael-mbp:Machine_Learning michael$ git log --oneline
8084ede (HEAD -> master, origin/master) pushing presentation materials
2f67789 draft model for kaggle and presentation
689b188 updated model
3638844 pushing kaggle csvs to repository
2f3e1b2 updating git ignore so that kaggle data shows up.
0356048 changed folder structure and created new files
6bc7c95 updating notebook to evaluate R^2 for all models and to create statsmod
l summary
84ae728 adding documentation and updates to gitignore file
f9436d0 Adding work from all teammates up until this point. The team ... Investi
ated additional datasets. Created base model. Performed feature engineering.
1bf032c adding zillow data source
8c93ed9 adding most recent updates and iowa education data source.txt
ce35094 modification to gitignore to include ALL csv's and xlsx's
3dc0967 updating gitignore file due to the addition of many large .csv's in rep
cb8c5d5 .gitignore fix
4d06969 adding workspaces for each team member
b97bd3e adding gitignore file
f51254e updating readme
6e0538f adding kaggle data and preliminary folder structure
9617e7f first commit
(base) michael-mbp:Machine_Learning michael$
```

- **Purpose -**

- Problem Statement:
 - *Accurate predictive models abound. Models that provide good business sense are hard to come by. Modern ensemble data science methods provide high R^2 values and tell you which variables are important, but they do not tell you HOW important they are.*
- Target Audience:
 - *Home-owners interested in looking to prep-their house for selling*
- Objective:
 - *Perform multiple linear regression to ascertain the monetary value of adding upgrades to your home.*
- Business Value of Objective:
 - *Home-owners and home-flippers alike ask themselves, "which home upgrade will get me the highest return on investment?" Our model provides the acumen for our target audience to answer the above question.*

- **Tools and Methods -**

- Tools and Methods Employed:
 - *Jupyter Notebook, Python, Matplotlib, Machine Learning (Linear regression, ridge, lasso, elastic net, random forest, xg boost, svm)*
- User Experience Considerations:
 - *Aesthetics, Salient Research Topic, Focus on Most Important Upgrades*

- **Outcome -**

- Problem Statement and Objective:
 - *TBD by Audience/Grader*
- Satisfaction of Objective:
 - *TBD by Audience/Grader*
- Value to Target Audience:
 - *TBD by Audience/Grader*

- **Presentation -**

- Presentation Elements:
 - *TBD by Audience/Grader*
- Presentation Location:
 - *TBD by Audience/Grader*