sddec18-13: Asset management - Financial Factor Discovery - "Value"
Week 2 Report
February 3 - February 7

Team Members
Carter Scheve — *Communications Lead*
Nathan Hanson — *Project Progress Tracker/Manager*
Caleb Utesch — *Meeting Scribe*
Jack Murphy — *Research Analyst*
Samuel Howard — *Lead Engineer*
Alex Mortimer — *Project Manager*

Weekly Summary
This is the second weekly report for our Senior Design team, containing information about the events that have transpired within the last week or so. Most of this week was dedicated to setting up a work environment for our team to utilize, as we have met with our client and begun to gather project goals and hopeful deliverables. We also spent some time cementing our team structure and roles for each member. Although our client meeting took a bit longer than expected to materialize, now that the initial contact has been made, our progress is accelerating quickly. There were many work tools that we needed to implement, including Slack, Gitlab, and Google Docs. In addition to that, our team had several meetings: one with the client, one with our advisor, and a few with just the team. After this week, we are ready to really get into the first stage of our project and begin working.

Summary of Progress this Report
Started researching data analysis techniques and working with Python tools.
- Finished Team Role assignments
    - Carter Scheve
        - **Communications Lead** - Maintains contact with both the client and our faculty advisor, putting together any emails, meeting invites, or phone call information we need in order to keep a healthy level of communication around the project.
    - Nathan Hanson
        - **Project Progress Tracker/Manager** - Monitors our team's project deliverables and their expected delivery dates to ensure our progress is on track for success. If any issues surface, the manager will address them, assigning any extra work tasks or deadlines to team members as necessary.
    - Caleb Utesch
        - **Meeting Scribe** - Records notes for each meeting, highlighting the progress achieved in between meetings as well as goals to accomplish before the following meeting. Provides summaries of client requests and advice from the faculty advisor.
    - Jack Murphy
        - **Research Analyst** - Oversees the progress involving learning new material that is required for development. Finds helpful resources from the client or online to facilitate rapid and thorough acceptance of new material.
    - Samuel Howard
        - **Lead Engineer** - In charge of project architecture and identifying technologies that will be necessary for development. This will involve a lot of machine learning techniques, which is why we chose Samuel for the job.

- ○ Alex Mortimer
  - ■ **Project Manager** - Oversees the functioning of individual aspects of the project, including research, solution ideation, development, communication with client and faculty advisor, and testing. Takes appropriate action to delegate work tasks when needed and follows up to ensure effective completion, providing resources for help when necessary.
- Began technical talks with client
  - ○ Our client gave us resources to facilitate learning the basics of machine learning and statistical analysis. These resources are to help us get started within the next two weeks. After that, we discussed more in-depth technical details for later this month.
- Finalized project deliverables and tasks
  - ○ Our main concern for this meeting was to finalize the mission for our project overall. We had a lengthy discussion with the client but were able to make a list of deliverable and tasks for the upcoming year, which are described in length in our project plan.

Pending Issues

Continuing to breakdown and analyze the data set
Understanding the pros and cons of each of the different machine learning techniques available
Project Plan is due on Sunday

Plans for Upcoming Reporting Period

Formulate more extensive experiments once the proper tools and techniques are learned
Learn basics of machine learning and statistical analysis
Complete Project Plan

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Carter Scheve	Tweaked data set. Was able to make it more readable and easier to parse. Also began plotting and basic analysis on data. Kept in contact with client and setup meeting and agenda. Set up meeting with faculty advisor Did some research into machine learning concepts	14	17
Nathan Hanson	Managed gitlab tasks and updated gitlab version control file inputs to avoid storage of redundant or unnecessary data. Researched machine learning approaches and techniques, analyzing use-cases and performance. Researched potential statistical prediction models. Practiced usage of python libraries.	13	15
Caleb Utesch	Took notes during all meetings and shared with the team on google drive.	12	14

	Went over some python tutorial videos to gain a deeper understanding of the language in the context that we will be using it. Begin reviewing the python data science materials provided by our client.		
Jack Murphy	Began to utilize some of the resources provided by Principal for research such as datacamp.com. Started looking into various machine learning algorithms. Posted the first weekly report onto the team website.	14	16
Samuel Howard	Started testing/familiarization with data input and machine learning libraries. Attempted first pass of model accuracy with basic k-nearest neighbors. Difficulty arose with null value occurrences.	14	16
Alex Mortimer	Began working on the classic "Titanic" scenario for machine learning techniques, which involved writing python code in a Jupyter notebook and reading into the processes available for this type of task. Continued working with data set, writing functions for visualization and analysis	14	16