sdmay19-06: Quantitative Research Modeling Library
Week 4 Report
February 11 - February 17

Client: Joseph Byrum
Advisor: Srikanta Tirthapura

Team Members
Josiah Anderson — *Meeting Facilitator*
Doh Yun Kim — *Scribe*
Gabriel Klein — *Report Manager*
Drake Mossman — *Communication Manager*
Nathan Schaffer — *Overseer*
Jacob Richards — *Quality Assurance Manager*

Summary of Progress this Report
This week we continued to make progress on all of the portions of the pipeline as we get nearer to our next milestone of prototyping the pipeline by March 1. The modeling team has more or less split into two for the time being as one member has gone back to rework our factor portfolio aggregation implementation to meet our new understanding of our requirements and the other continues to work on implement the modeling portion. They had a meeting with our client to ensure the current understanding going forward is correct. The factor policy team reviewed and wrote new documentation for the Factor Policy Plan as they continue working on that section. The dashboards team finished building tables for factor portfolio storage and added code for updating said tables as well. They also looked into views and their benefits for our project.

Past Week Accomplishments
Josiah Anderson
- Built out remaining tables for storing data from the factor portfolio stage of the pipeline
- Researched views and how they could benefit our project
- Created our presentation for 1-on-1 meeting

Doh Yun Kim
- Meeting with Vishnu with regards to the modeling step. Talked about inputs/outputs, specific functions in regards with the model class
- Added different models to the training portion of model class
- Made design changes to the model class in regards to accepting model type

Gabriel Klein
- Met with Vishnu to discuss the modeling portion of the pipeline and its inputs/outputs
- Changed the factor portfolio aggregation to accept a db connection instead of assuming one exists
- Redesigned factor portfolio architecture to reflect information we actually need
- Worked on refactoring factor portfolio aggregation to actually do aggregation

Drake Mossman
- Documented new Factor Policy Plan
- Reviewed Factor Portfolio Aggregation Progress

Jacob Richards
- Built tables for database
- Worked on Factor_Portfolios code to update database tables

Nathan Schaffer:
- Researched abstract base classes in python
- Review factor policy optimization documentation

Pending Issues

The CI tests are still inoperable for the time being. We hope to get someone working on them again as soon as we have a person free, but it may have to wait until the integration or testing phase.

Plans for Upcoming Reporting Period

Josiah Anderson
- Send current progress to Josh for review
- Fix access issues in regards to Ben being able to read from the tables
- Create tables to store data for the modeling and optimization steps of the process

Doh Yun Kim
- Confirm expected interface between factor portfolio aggregation and modeling with Gabe
- Continuing working on the training portion of the model class
- Ask feedback from Vishnu

Gabriel Klein
- Confirm expected interface between factor portfolio aggregation and modeling with Doh Yun
- Confirm expected interface between factor portfolio aggregation and dashboards with dashboard team
- Continue refactoring factor portfolio aggregation code to aggregate correctly

Drake Mossman
- Contribute to output response ("Mean", "Variance", "Skew") in Factor Portfolio Aggregation
- Verify assumptions about data flow through pipeline stages

Jacob Richards
- Update progress with Josh
- Make sure all tables are getting their needed data

Nathan Schaffer:
- Complete implementation of abstract base class for factor optimizer
- Improve understanding of factor scoring step and start implementation

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Josiah Anderson	Factor portfolio output, dashboard interface	8	110.5
Doh Yun Kim	Training Models, Meeting with Vishnu	8.5	99
Gabriel Klein	Modeling Meeting, DB Connection, Factor Portfolio Aggregation Work	8	112
Drake Mossman	Documentation of Factor Policy Data Needs	6	109.25
Nathan Schaffer	Python Abstract Classes Research, Documentation Review	6	86
Jacob Richards	Database tables, Factor Portfolio output	8.25	92.75