

sdmay19-06: Quantitative Research Modeling Library

Week 7 Report

March 4 - March 10

Client: Joseph Byrum

Advisor: Srikanta Tirthapura

Team MembersJosiah 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 our team was able to give a midpoint presentation for our client regarding the current state of the project. We were also able to take some initial steps into integrating each piece of the pipeline together, although we'll continue to make progress in this area for the next few weeks. The dashboards team continued to make easy to use views for the database, we continued to iterate further on the aggregation and modeling code, and the factor policy team finished their prototyping. During these next couple weeks we hope to get all of our prototype code merged into the master branch of the project, as well as to act on the feedback we've received.

Past Week Accomplishments

Josiah Anderson

- Created models table based on DK's schema
- Worked to implement an insert query for the fp tables
- Looked into various postgresql concepts such as sequences and material views

Doh Yun Kim

- Got feedback from first prototype of modeling from Vishnu
- Started v2 of modeling adding in actual abstract classes and changing the structure of how to do calls
- Added in more bug checking for modeling

Gabriel Klein

- Met with Vishnu to get feedback on the prototype and planned another meeting for a more detailed look
- Restructured aggregation code to more naturally allow for queries of the whole universe
- Wrote aggregation for the dynamic excess returns case

Drake Mossman

- Integrated factor policy generation with Factor Portfolios
- Stubbed out generation of predicted values from modeling stage

Jacob Richards

- Created Materialized Views to replace basic Views
- Looked into Trigger functions to update Materialized Views automatically
- Worked on possible decile implementation in Factor Portfolios

Nathan Schaffer:

- Met with Vishnu to sort out Jupyter Notebook issues
 - Completed multi factor data aggregation for scoring stocks
 - Created prototype of AbstractStockScorer and WeightedAvgSocrer
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Pending Issues

As of now, there are no new pending issues. However, we are still waiting for someone to have the time to work on the testing aspect of the project.

Plans for Upcoming Reporting Period

Josiah Anderson

- Come to a conclusion on how to populate fp_data from the pandas dataframe
- Create the material views for Josh

Doh Yun Kim

- Meet with Vishnu to get more detailed overview over next steps
- Add in integration with factor aggregation

Gabriel Klein

- Meet with Vishnu in person to get more detailed feedback
- Add support for removing sin stocks/industries, macro input factors, and more input predictors
- Optimize aggregation when using a factory by avoiding repeated calculations

Drake Mossman

- Discuss any additional information needed within Factor Policy Generation black box
- Add to diagnostic tables

Jacob Richards

- Meet with Josh and Josiah to discuss progress
- Populate database with aggregated data

Nathan Schaffer:

- Meet with Fikri and Ben to demo prototype of Factor Policy
 - Test Factor Policy and make improvements to code
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Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Josiah Anderson	fp_tables, models, pg research	8	144.5
Doh Yun Kim	Modeling v2	7.5	119.5
Gabriel Klein	Universe factor portfolio aggregation	9	144
Drake Mossman	Factor policy integration	6.5	137.25
Nathan Schaffer	Stock scoring, Factor scoring data aggregation	10	111
Jacob Richards	Materialized views, Decile implementation, trigger function research	7	114.25