

sdmay19-06: Quantitative Research Modeling Library

Week 8 Report

March 11 - March 24

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

During this period, our teams continued to make progress on integrating the entire pipeline together. Factor portfolios are now stored in the database after aggregation, and soon we will be able to read them back from the database and reuse them. The modeling step got a lot of work done on it in response to the feedback we gained from meeting in person with one of our clients. The stock policy portion similarly was modified thanks to feedback from our client as well. In addition to all of this, we also revisited our documentation decision and compared them to what other teams have done in the past in order to decide on the best format, and we also set up a database on our testing server so that we can include some test data for our tests to operate on. This next week we hope to focus on completing an integrated version of the pipeline and move towards the testing phase of the project.

Past Week Accomplishments

Josiah Anderson

- Compared current documentation with the standard that was established by the previous senior design team
- Researched the possibility of creating html documentation files for our code
- Looked into the any proposed schemas for the factor policy class

Doh Yun Kim

- Worked on v3 of modeling, incorporating new design of how the modeling step works to better reflect the modeling step
- Met with Vishnu for feedback on modeling and integration with factor portfolio aggregation

Gabriel Klein

- Met with Vishnu in person for detailed feedback on factor portfolio aggregation
- Integrated factor portfolio aggregation with the database one way (storing portfolios)

Drake Mossman

- Reviewed stock scoring prototype state with Ben and Fikri
- Wrote shell classes to hold the implementation Nathan is working on

Jacob Richards

- Researched using Docker for Postgres testing database
- Researched using AWS with CI Runner for testing
- Installed Postgres on CI Server
 - Created test database
 - Connected test database with CI Runner

Nathan Schaffer:

- Met with Ben and Fikri to demo prototype of stock scoring
 - Completed implementation of stock scoring classes
 - Looked over code for testing
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Pending Issues

No new pending issues were encountered during this period. We currently have at least one person working on testing now, so we should finally be able to get our automated tests up and running. We also asked our client to provide some test data and expected results so we can ensure our code is working correctly.

Plans for Upcoming Reporting Period

Josiah Anderson

- Create tables in pgadmin based on the schema
- Communicate with Josh about the correctness of the views

Doh Yun Kim

- Add uploading results to database
- Add the method so that factor portfolio can search for which models to run

Gabriel Klein

- Integrate with the database in the other direction (reading portfolios) and benchmark for usefulness
- 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

- Merge stock scoring code to master ASAP
- Run end-to-end pipeline with all components as is
- Start implementation of storing to diagnostic tables

Jacob Richards

- Test CI Runner connectivity with Postgres test Database
- Write test cases for testing different sections of code

Nathan Schaffer:

- Test stock scoring classes
 - Merge stock scoring code to master
 - Assist with testing in other sections of code
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Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Josiah Anderson	Documentation, tables	7	151.5
Doh Yun Kim	modeling v3	16	135.5
Gabriel Klein	Factor Portfolio Storage	11.5	155.5
Drake Mossman	Review/assistance on final stock scoring stage	6	143.25
Nathan Schaffer	Stock scoring Implementation, Demo	8	119
Jacob Richards	Research DB setup, Setup Postgres on CI Server	7	121.25