St Andrews' Investment Society - Technology Document 1

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1   Introduction

Firstly, thank you for coming along to get involved with technology in the society. We hope to share a bit of what we know in the hopes to spur you into learning about all the possible roles of technology in Finance. Throughout each sector we will be using Python, as this is a high level language, making it easier to learn than others, and one which is used very commonly in the industry.

The resources we offer are not lecture notes which must be learnt in order to remain part of the society, nor are they a list of tasks to be completed to increase your chances of employment. They are simply a collection of examples illustrating the use of technology in the world of finance, and how these may help you. They are here to act as Base Camp.

The technology sector, as you may know, is a recent addition to the society; as such we have an element of free rein with regards to the direction in which we want to take it. Currently, our plans for Semester 1 are to collectively bring everyone involved to a high level of coding ability with Python. For those with prior experience, whose skills we can push to the next level, we have either the Sector Quantitative Analyst group or the Quantitative Strategies Analyst group (the individuals within will be referred to as SQAs and QSAs, respectively, in this document). The former will focus on using Python for data analysis - involving fetching, parsing and analysing financial data, using various commonly used packages - while the latter will revolve around R&D on projects to help the fund, an in detail introduction to which can be found in the git repo.

Furthermore, we will be aiming to host numerous events focusing on technology, similar to that co-hosted with Morgan Stanley in Week 2, networking, in order for members to broaden their employment 'horizons', and the application of skills, such as Hackathons.

2   Deployment outline

2.1   Junior and Sector Quantitative Analysts

In Semester 1, these sections will focus of providing educational content to improve your programming abilities and will centre around self teaching content with 'office hours' sessions where you can come along to talk to some of the team if you have any issues. Arrangement for these hours will be discussed in the first meeting, as to make sure we accommodate as many people as possible.

In Semester 2, Junior Analysts will progress to the Sector Quantitative Analyst training, to further improve their programming abilities. Students who have completed this will then either have the option to join a sector, to have the role of data analyst to improve stock pitches, or join the QSAs.

Content for both these sectors will be released gradually to allow you enough time to read through the material we have made, as well as reading through documentation for packages used. We have intentionally only provided a few examples for package introductions, as there is an abundance of documents online. As mentioned before our aim is to introduce you to programming and packages, and it is up to you to practice and learn.

2.2 Quantitative Strategies Analysts

This sections, as mentioned before, will focus on R&D, hence the minimal set structure. At present, the idea is to brainstorm ideas and then create groups to work on projects, that you will develop over the semester. For further details on QSAs see the **Introduction to Quantitative Strategies.pdf** in the git repo.

2.3 Comments

If you would like to be part of the technology section as well as the main fund, to maximise your learning, you are more than welcome to. Just because you chose this section as your first choice (or second!), it does not prevent you from joining a fund sector. Equally, it should be noted that members do not have to join a fund sector, if you find that your interests lie purely with technology.

3 Getting started

3.1 What you will need

You will need the following:

1. A GitHub account and git installed.

2. Python v3.9+ installed.

3. Miniconda (preferable) or pip. **(SQA only)**

Tutorials for installing and setting up Git are included below. For Python view Install Python. If you are new to using the command line, see command line cheat sheet.

3.2 Installing Git

To help speed up the process of learning we have created a online repository(repo) on GitHub which contains all the examples we will use. To download git refer to installation guide. Once installed you can download the git repo from here. Note you will need to be added to the access for the repo before you can download this. For setting up the repo on your computer follow steps in the **git and github.pdf file**. Make sure you have the repo in an easily found location, to make your life easier later on.

3.3 Installing Miniconda

Miniconda is a package managing software used to install and manage various packages. If you have ever used 'pip' this is basically the same thing with a few extra features. We will use miniconda to setup our environment. To install miniconda refer to Miniconda installation. Once you have installed miniconda, in a terminal navigate to the **environment.yml** file in repo you've just downloaded and run **conda env create -f environment.yml**. This may take a while to install all the packages. When this is finished run **conda activate invest_soc**, this will activate the environment for use, we are almost there!

3.4 Running Jupyter Notebooks

This is the easiest step of setup. If you have installed the conda environment, in a terminal simply run **conda activate invest_soc**, this activates the environment (note this can be done from anywhere). If you are not using conda you may need to install Jupyter Notebooks to run the next command. Navigate to the repo folder and type **jupyter notebook** inside of the repo, this will start a webpage with the notebooks from the repo available for use. That's it, we're all setup and ready to go. The repo contains all our educational content and will be updated with new material regularly throughout the semester.