MACHINE GUIDED INVESTING

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AGENDA

Introduction

Primary Goals

Timeline

Areas of Growth

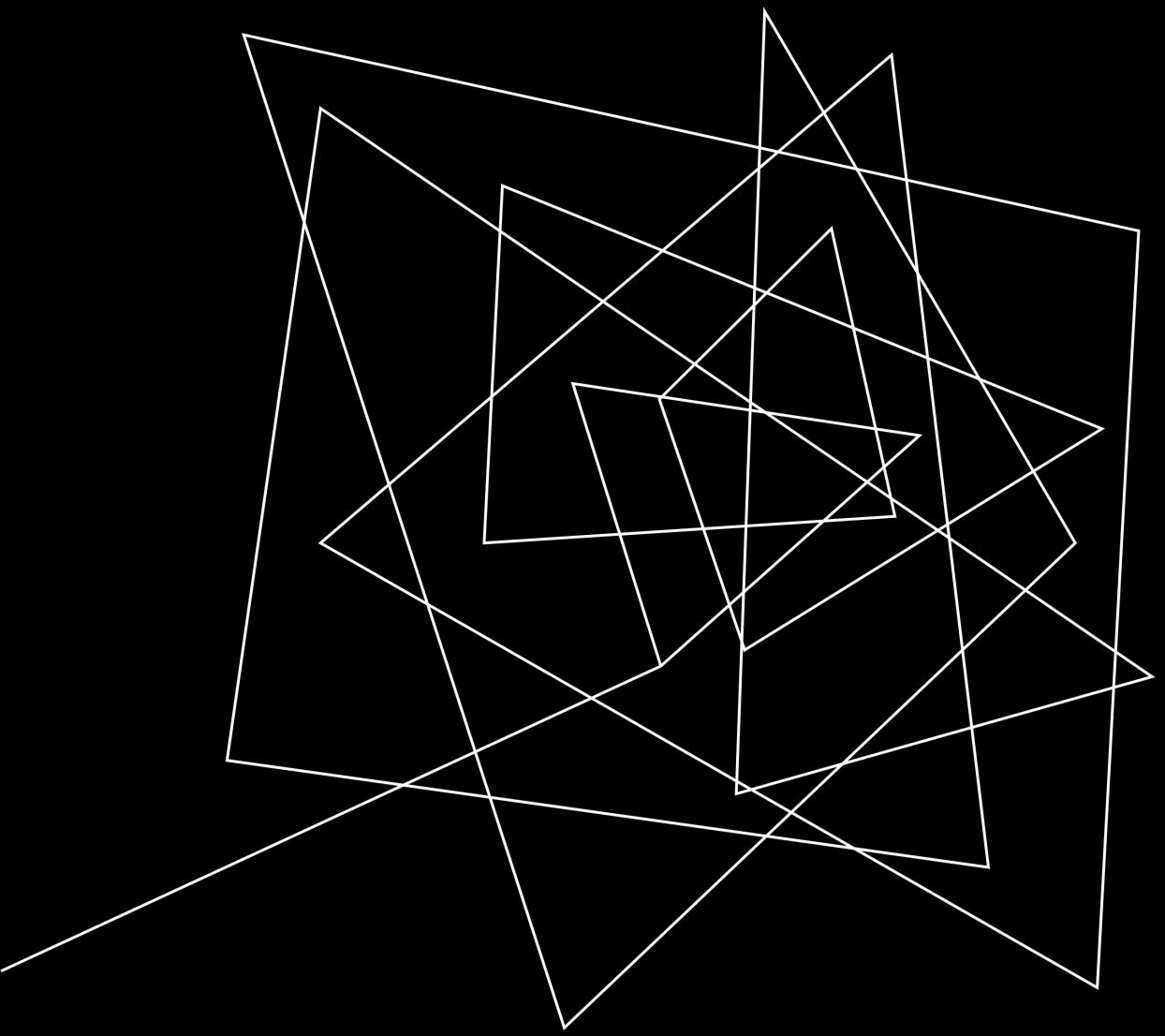
Demo

INTRODUCTION

My project is a python program that pulls data from Yahoo Finance to analyze financial ratios. It also utilizes a machine learning library to attempt to predict the future price of the stock.

KEY TERMS

- Python – A programming language often used in Finance and with Machine Learning
- Financial Ratio – A relative magnitude of two selected numerical values taken from an enterprise's financial statements.
- Machine Learning – A type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so.



PRIMARY GOALS

Functioning Program

Financial Ratio Analysis

Machine Learning Component

TIMELINE

Feb 1-21

General prep work for the project.

- GUI Mockup
- Learning

Feb 21- March 3

Coded the bulk of the financial ratio portion.

- Found what data structures worked for me
- Got used to interacting with Yahoo Finance API

March 3 – 15

Decided to bump the ML part up and complete it first.

- Learned the Stocker library implementation
- The backend of the project is mostly done

March 15 - 30

Worked on the GUI

- It took far longer than I anticipated
- Used PySimpleGUI

TIMELINE CONTINUED

March 30 – April 5

Worked on the file interaction part of the program

- Taking a CSV as an input
- Having the ability to add stocks to it

April 5 – April 8

Tried to implement parallelization

- The biggest drawback is the run time
- I ended up being unsuccessful

April 8 - 11

Added the finishing touches

- Progress bars in the GUI
- Excel output files

AREAS OF GROWTH

Python Learning

I learned a lot about coding with Python.

- I learned general syntax
- I learned how to use different libraries
- I learned a lot about machine learning in python

Shipping a Complete Project

Going into the project there were many things I didn't know it would entail.

- I learned creating a custom GUI in Python.
- I learned about design and considering multiple users.

Knowledge About Financial Ratios

I have a deeper understanding of financial ratios than when I started.

- I learned theory behind comparing companies.
- I learned in a more concrete way what the ratios mean.

MACHINE LEARNING ANALYSIS

Correlation Between Predicted Error and Actual Error

0.698537

Correlation Between Predicted Percent Change and Actual Percent Change

0.322954

DEMO

THANK YOU

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