Group Project Description for BC3409 (15%)

AI has been used to develop and advance numerous fields and industries, including finance, healthcare, education, transportation, and more. In this project, your team must use at least one of the AI models taught in BC3409 to solve a problem.

Examples of AI applications are:

KYC - instead of visiting various websites to perform background checks on a huge number of new customers, AI can help compile the information needed and put it nicely as a spreadsheet for an accountant to make decisions.

Credit Decisions - Artificial intelligence solutions are helping banks and credit lenders make smarter underwriting decisions by utilizing a variety of factors that more accurately assess traditionally underserved borrowers, like millennials, in the credit decision making process.

Managing Risk - AI predictions help financial experts utilize existing data to pinpoint trends, identify risks, conserve manpower and ensure better information for future planning.

Chatbot - Kensho’s software offers analytical solutions using a combination of cloud computing and natural language processing (NLP). The company's systems can provide answers to complex financial questions in plain English.

Quantitative Trading - AI-powered computers can analyze large, complex data sets faster and more efficiently than humans. The resulting algorithmic trading processes automate trades and save valuable time

Project Deliverables:

1. A concise report in word document format, with a one page executive summary, of your most important findings. Guideline: Approximately 20 pages, excluding appendices and executive summary.

2. A deck of presentation slides that summarize your important findings and recommendations. Guideline: 15 minutes presentation (with youtube), with about 5 minutes Q&A.

3. The final, cleaned data used, preferably in CSV format. Document the meaning of all the variables and coded data values in a separate data dictionary document.

4. The R/Python/Other programming script used. If you did not write any code, then provide the screenshots of the software and settings used. Show enough such that another independent group of researchers can reproduce and verify your findings.

5. Put 1 to 4 in a zipped folder without password and submit your zipped file at least 48 hours before your class in week 13. Include your team number in all the file names, including the zipped folder name.

Project Grading Criteria:

|  |  |  |
| --- | --- | --- |
| Component | Criteria | Weightage |
| Problem Analysis | How well you understood the problem and define the requirement or opportunity. | 20% |
| AI Solution | How well you conduct the AI to solve the problem or opportunity. | 50% |
| Written Communication | How well you write the report, executive summary and slides. | 15% |
| Oral Communication | How well you present your work during presentation day. | 15% |

Possible Content:

1. Problem Statement

2. Literature Review

3. Data Set (if any)

4. Technology Used and Modelling

5. Solution Solving the Problem?

6. Evaluation

7. Conclusion and Future Studies

AI References:

https://en.wikipedia.org/wiki/Applications\_of\_artificial\_intelligence

<https://dzone.com/articles/top-10-most-popular-ai-models>

https://www.dropbox.com/sh/47hp5s6b3fopyc5/AACYKQ8BHzqu6l\_s\_KjUujKja?dl=0

Example Datasets:

You can use any or none of these, or/and any other suitable data that your team found.

Forex:

<http://ratedata.gaincapital.com/>

<https://www.dukascopy.com/swiss/english/marketwatch/historical/>

<https://www.oanda.com/fx-for-business/historical-rates>

Equity

<http://unicorn.us.com/advdec/>

<http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html>

<http://pages.swcp.com/stocks/>

<https://www.iasg.com/en-us/managed-futures/market-quotes>

<https://finance.yahoo.com/>

Fix Income

<https://live.barcap.com/UAB/ct_logon_basic?CT_ORIG_URL=%2FBC%2Fdispatcher&ct_orig_uri=%2FBC%2Fdispatcher>

<https://www.federalreserve.gov/releases/h15/data.htm>

<http://www.bbalibor.com/rates/>

Options

<http://www.ivolatility.com/>

<https://optionmetrics.com/>

<http://www.livevol.com/>

<https://www.historicaloptiondata.com/>

Future

<https://www.icowins.com/>

<https://www.cmegroup.com/market-data.html?redirect=/market-data/index.html>

<http://www.simiansavants.com/cmedata.shtml>

Commodity

<https://www.liffe-commodities.com/>