

Past Six Months

- Submission of Kairosis Paper I

- Management Science (Rejection)
- International Journal of Forecasting (Positive Outcome)
 - Resubmission deadline of November 30th
 - Making substantial progress on manageable revisions

- Drafting of Kairosis Paper II

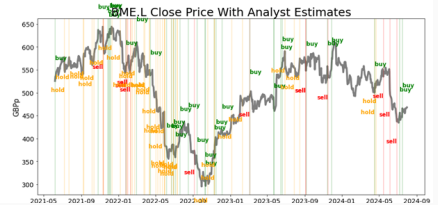
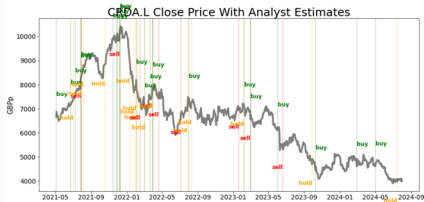
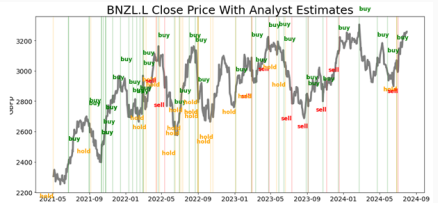
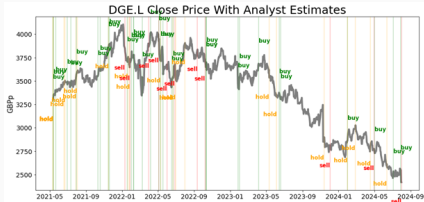
- Promise to be extended outside probability forecasts $\in (0, 1)$
- Equity research analyst recommendations on FTSE 100
- Considering ways of framing the narrative to submit to a journal.
What question are we seeking to answer?

- Football Data Revisited

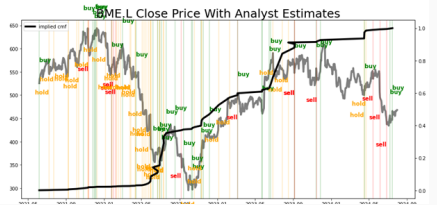
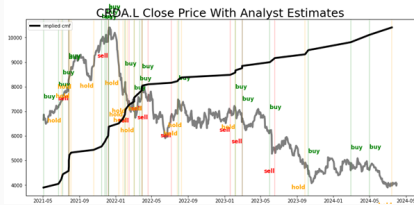
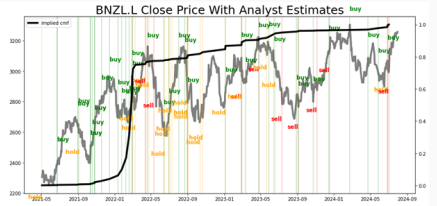
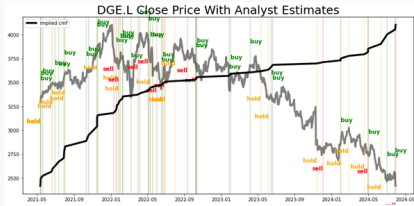
- How can I contribute to literature dominated by deep reinforcement learning?
- Reduce the dimensions of event transition matrix
- Evaluate if model performance differs when multiple events are combined

- General Revisions of Abstract and Introduction
- Adding standard deviations and increasing number of questions from 82 \rightarrow 660
- Give explanation for questions outside of probability forecasting to tee up next paper
- Give a really simple toy example of the methodology.

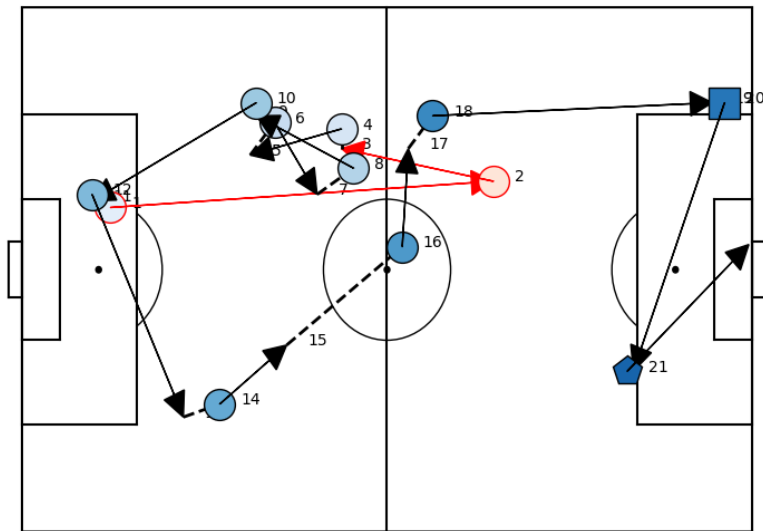
Kairosis Paper II



Kairosis Paper II



Football Data



Football Data

| | | Chelsea FCW 2 - 0 Opponent at 90 minute in Second Half | | | | | | | | | | | | | | | | | | | |
|------|------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------------|---------------|----------|
| From | Chelsea FCW_Z_10 | Chelsea FCW_Z_2 | Chelsea FCW_Z_3 | Chelsea FCW_Z_4 | Chelsea FCW_Z_5 | Chelsea FCW_Z_6 | Chelsea FCW_Z_7 | Chelsea FCW_Z_8 | Chelsea FCW_Z_9 | opponent_Z_10 | opponent_Z_2 | opponent_Z_3 | opponent_Z_4 | opponent_Z_5 | opponent_Z_6 | opponent_Z_7 | opponent_Z_8 | opponent_Z_9 | Chelsea FCW_Goal | opponent_Goal | |
| | -0.2222 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0278 | 0.1111 | 0.0000 | 0.0000 | 0.5833 | 0.0000 | 0.0000 | 0.0278 | 0.0000 | 0.0000 | 0.0278 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.5263 | 0.1053 | 0.0000 | 0.0000 | 0.0526 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.2632 | 0.0526 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0370 | 0.3333 | 0.0370 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0370 | 0.5185 | 0.0370 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.1091 | 0.4182 | 0.0000 | 0.0182 | 0.0182 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0182 | 0.4182 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0328 | 0.0164 | 0.0000 | 0.4918 | 0.0328 | 0.0000 | 0.0000 | 0.0164 | 0.0000 | 0.0164 | 0.0000 | 0.0000 | 0.3443 | 0.0000 | 0.0164 | 0.0328 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0200 | 0.0000 | 0.0000 | 0.0400 | 0.4200 | 0.1000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0200 | 0.0000 | 0.0200 | 0.3000 | 0.0600 | 0.0000 | 0.0200 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.0000 | 0.1094 | 0.0000 | 0.0469 | 0.4062 | 0.0000 | 0.0000 | 0.0156 | 0.0000 | 0.0312 | 0.0312 | 0.0000 | 0.0156 | 0.3438 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.0000 | 0.0123 | 0.0370 | 0.0123 | 0.0000 | 0.4691 | 0.0123 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0370 | 0.0000 | 0.0000 | 0.4074 | 0.0123 | 0.0000 | 0.0000 | |
| | 0.0185 | 0.0000 | 0.0000 | 0.0185 | 0.0741 | 0.0185 | 0.0185 | 0.0370 | 0.2593 | 0.0185 | 0.0000 | 0.0000 | 0.0185 | 0.0370 | 0.0741 | 0.0185 | 0.0556 | 0.3333 | 0.0000 | 0.0000 | |
| | -0.1942 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0097 | 0.0000 | 0.0194 | 0.6699 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0097 | 0.0194 | 0.0097 | 0.0680 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.2727 | 0.0000 | 0.0000 | 0.0909 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.4091 | 0.0000 | 0.0000 | 0.1364 | 0.0909 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.1400 | 0.0400 | 0.0000 | 0.0200 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0600 | 0.5800 | 0.0400 | 0.0400 | 0.0400 | 0.0200 | 0.0000 | 0.0200 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.0169 | 0.3220 | 0.0000 | 0.0169 | 0.0847 | 0.0000 | 0.0000 | 0.0169 | 0.0000 | 0.0169 | 0.4068 | 0.0000 | 0.0000 | 0.1017 | 0.0000 | 0.0169 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.2368 | 0.0132 | 0.0000 | 0.0395 | 0.0263 | 0.0132 | 0.0263 | 0.0000 | 0.0000 | 0.5000 | 0.0658 | 0.0000 | 0.0526 | 0.0263 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.0147 | 0.0000 | 0.0000 | 0.1912 | 0.0147 | 0.0147 | 0.0147 | 0.0294 | 0.0147 | 0.0000 | 0.0147 | 0.0588 | 0.5000 | 0.0588 | 0.0441 | 0.0294 | 0.0000 | 0.0000 | |
| | 0.0280 | 0.0000 | 0.0000 | 0.0093 | 0.0000 | 0.0280 | 0.1869 | 0.0093 | 0.0093 | 0.0093 | 0.0093 | 0.0000 | 0.0374 | 0.0000 | 0.0374 | 0.6075 | 0.0187 | 0.0187 | 0.0000 | 0.0000 | |
| | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0194 | 0.0000 | 0.0000 | 0.3204 | 0.0388 | 0.0194 | 0.0000 | 0.0000 | 0.0000 | 0.0194 | 0.0000 | 0.0000 | 0.5048 | 0.0777 | 0.0000 | 0.0000 | |
| | -0.0645 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0484 | 0.4516 | 0.0645 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0161 | 0.0484 | 0.3065 | 0.0000 | 0.0000 |
| | Chelsea FCW_Goal | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 | 0.0000 |
| | opponent_Goal | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| | | FCW_Z_10 | FCW_Z_2 | FCW_Z_3 | FCW_Z_4 | FCW_Z_5 | FCW_Z_6 | FCW_Z_7 | FCW_Z_8 | FCW_Z_9 | ent_Z_10 | ent_Z_2 | ent_Z_3 | ent_Z_4 | ent_Z_5 | ent_Z_6 | ent_Z_7 | ent_Z_8 | ent_Z_9 | FCW_Goal | ent_Goal |

Next Six Months

- Completion of revisions for IJF
 - Deadline November 30th
- Submit Kairosis paper II
 - Before end of the year
- Complete and write up the results for football data
 - Strategize how to frame this research
 - Seems like a preprocessing of data concern
- GTA for Introductory Probability and Statistics