STAT157 HW 4

Feb 14, 2022

Due Monday, February 21 at 11:59pm

Deliberate Practice

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Lab

Expected completion time: 120 minutes

Link to Jupyter notebook.

Please follow the instructions in the notebook to print out your code and answers and submit to Gradescope. You may use languages other than Python, although we will generally be providing starter code in Python.

On Gradescope, please also submit the time it took to complete this exercise.

Short-term Predictions

Expected completion time: 120 minutes

Register the following predictions. You can submit them by going to `TODOurl` and following the form's instructions. For these predictions, (and all predictions about the future throughout this class), we encourage you to use external sources – by googling things, reading news articles, talking to friends who follow politics or music stats, etc.

0. Pick the same website, application, or software you chose last week, and predict how much time you will spend on it between 12:00am Tuesday February 15th and 11:59pm Sunday February 20th., as measured by your time-tracking app.

1. Will *Inventing Anna* be in the Netflix top 10 by End Of Day February 27?

2. Will Russia invade Ukraine before End Of Day February 27?

   - This question resolves positively if, between February 22nd, 2022 12:00am and February 27th, 2022 11:59pm, representatives of the Government of the Russian Federation announce or acknowledge that Russia has invaded Ukraine, or if any two Permanent Members of the United Nations Security Council announce or acknowledge that the Russian Federation has invaded Ukraine.
   - These announcements must be describing events which took place (at least in part) during the same period, from February 22nd, 2022 12:00am to February 27th, 2022 11:59pm.
   - Areas of Ukraine already occupied (officially or de facto, cf https://en.wikipedia.org/wiki/Temporarily_occupied_territories_of_Ukraine) by Russia as of January 24th, 2022, will not trigger resolution.

3. How many contestants of Season 2 of Love Is Blind will have gotten married on air by the end of S2 E10 on February 25?

For each question, submit a mean and inclusive 80% confidence interval (or probabilities for questions 1 and 2), as well as an explanation of your reasoning (1-2 paragraphs). **Please include a copy of your google form responses with your Gradescope submission.** On Gradescope, please also submit the time it took to complete this exercise.

Longer-term Predictions

Register the following predictions. Although they resolve in April, they will also count for the leaderboard. You can also submit them by going to `TODOurl` and following the form's instructions.

1. Will Disney CEO Bob Chapek be voted out on the board meeting of March 9?

2. Will Delta airlines still require masks for all passengers in all domestic flights by EOD March 15th? (except passengers with disabilities or children under 2)

3. Will Kanye West win a Grammy award in 2022?

4. Who will Joe Biden replace Eric Lander by as Head of the White House Office of Science and Technology Policy?

   - This article names 5 likely nominees: Alondra Nelson, Jane Lubchenco, Jason Matheny, France Crdova, Maria Zuber. Please submit a probability for each, and for "someone else", and your reasoning.

For each question, submit a mean and inclusive 80% confidence interval (or probabilities for questions 2 and 3), as well as an explanation of your reasoning (1-2 paragraphs). **Please include a copy of your google form responses with your Gradescope submission** (you don't have to take a screenshot, you can simply copy-paste your reasoning and responses into the file you submit on Gradescope). On Gradescope, please also submit the time it took to complete this exercise.

Extra-credit: Predictions

1. Give an 80% Confidence Interval for 2/3 of the Upper Bound of the Confidence Intervals provided for this question, as well as an explanation of your reasoning. Once again, submit your prediction and reasoning on `TODOurl`, and include a copy of both on your Gradescope submission.

Extra-credit: Question generation

For extra credit, you can also generate questions: you will get points if we add your questions to our pool of questions for this year or the following years. Many of our questions so far focused on a few themes like movies, elections or geopolitics, so we're especially interested in questions about other topics! We are interested in 3 kinds of questions:

- Calibration exercise questions, such as in the calibration app from *HW1 Deliberate Practice* (1 point).

- Fermi estimate questions, such as in *HW2 Deliberate Practice: Estimation* (2 points).

- Forecasting questions like the weekly prediction questions in past homeworks (3 points).