Throughout this project I switched between python and sql for certain tasks, depending how comfortable I was with each tool.

This file contains the commands used to create the home\_total\_diff, net\_rating, and pace tables which were a major part of this analysis. These queries were run in pgAdmin4 and exported to CSVs using pgAdmin’s export to csv tool.

**Difference between Home and total:**

WITH homewins AS (

SELECT team\_abbreviation, count(\*) AS h

FROM trad\_all\_years

WHERE home\_away = 'HOME' AND wl = 'W'

GROUP BY team\_abbreviation),

totalwins AS(

SELECT team\_abbreviation, count(\*) AS t

FROM trad\_all\_years

WHERE wl = 'W'

GROUP BY team\_abbreviation

),

homelosses AS (

SELECT team\_abbreviation, count(\*) AS l

FROM trad\_all\_years

WHERE home\_away = 'HOME' AND wl = 'L'

GROUP BY team\_abbreviation),

totallosses AS(

SELECT team\_abbreviation, count(\*) AS tl

FROM trad\_all\_years

WHERE wl = 'L'

GROUP BY team\_abbreviation

)

SELECT totalwins.team\_abbreviation, ROUND((CAST(homewins.h AS decimal)/(homewins.h +homelosses.l)),3) AS homewinpct,

ROUND((CAST(totalwins.t AS decimal)/(totalwins.t +totallosses.tl)),3) AS totalwinpct,

(ROUND((CAST(homewins.h AS decimal)/(homewins.h +homelosses.l)),3) -

ROUND((CAST(totalwins.t AS decimal)/(totalwins.t +totallosses.tl)),3)) AS diff,

RANK() OVER(ORDER BY ROUND((CAST(totalwins.t AS decimal)/(totalwins.t +totallosses.tl)),3) DESC) AS winpct\_rank

FROM totalwins

LEFT JOIN homewins

USING(team\_abbreviation)

LEFT JOIN homelosses

USING(team\_abbreviation)

**GET NET RATING DIFFERENTIAL HOME AWAY:**

WITH home\_net as (

SELECT team\_abbreviation, ROUND(SUM(net\_rating)/count(\*),3) as home\_net

FROM master\_table

WHERE home\_away = 'HOME'

GROUP BY team\_abbreviation

ORDER BY 2 DESC),

away\_net AS(

SELECT team\_abbreviation, ROUND(SUM(net\_rating)/count(\*),3) as away\_net

FROM master\_table

WHERE home\_away = 'AWAY'

GROUP BY team\_abbreviation

ORDER BY 2 DESC

),

overall\_net AS(

SELECT team\_abbreviation, ROUND(SUM(net\_rating)/count(\*),3) as overall\_net

FROM master\_table

GROUP BY team\_abbreviation

ORDER BY 2 DESC

)

SELECT home\_net.team\_abbreviation, home\_net- away\_net as h\_a\_diff,

home\_net - overall\_net AS h\_o\_diff

FROM home\_net

LEFT JOIN away\_net

USING (team\_abbreviation)

LEFT JOIN overall\_net

USING (team\_abbreviation)

ORDER BY 3 DESC

WITH avg\_pace AS(

SELECT team\_abbreviation, team\_id, season\_id, round(AVG(pace),3) AS avg\_pace, ROUND(AVG(pace\_per40),3) as avg\_pace\_per40

FROM master\_table

WHERE home\_away = 'HOME'

GROUP BY team\_abbreviation, season\_id, team\_id

ORDER BY 4 DESC

)

SELECT opponent, round(avg(avg\_pace\_per40 - pace\_per40),3) AS pace\_difference

FROM master\_table as m

LEFT JOIN avg\_pace AS per\_team

ON m.season\_id = per\_team.season\_id AND m.team\_id = per\_team.team\_id

WHERE home\_away = 'AWAY'

GROUP BY opponent

ORDER BY 2