

## Claire Lucia Morrison, PhD

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Doctorate in sleep health & Football Analyst in the NFL for 3 seasons. Leveraging data to research trends across the league, opponent-scout, self-scout and expedite tape breakdown and cut-up generation.

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### Education:

**PhD, University of Colorado, Boulder, CO.** Behavioral, Psychiatric & Statistical Genetics.

May 2023

**MA, University of Colorado, Boulder, CO.** BPSG, Quantitative Methods for Behavioral Sciences.

December 2020

**BS, University of Michigan, Ann Arbor, MI.** Biopsychology, Cognition & Neuroscience.

April 2016

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### Skills:

- *Computer programs:* **R** (data analysis, manipulation, visualization, ShinyApps); **XOS** (play tagging, cut ups, presentation preparation); **Vizio** (play drawings); **SQL**; **Linux/unix** (bash scripting on high performance computing clusters, command line navigation); **Python** (data manipulation and knowledge of machine learning estimators).
- *Writing and communication:* Substantial academic writing, peer-review and presentation experience. Dissemination of football projects to front office and coaches. Spoke to players on interrelations between data, scheme and tactics. Provided data-driven recommendations of plays and formations to coaches during both weekly game planning and in-game situations.

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### Experience:

**Football Methods Quantitative Associate, Minnesota Vikings**

2025-present

- Assist with Vizio drawings and XOS presentations for unit meetings.
- Make weekly and impromptu cut ups that allow coaches to see the tape that directly corresponds to reports.
- Work with PFF and NGS to aid coaches with self-scout breakdown.
- Help with special projects to assist Coordinators in researching trends across the league.
- Produce an advance report weekly on the opponent defense for Minnesota's offensive staff.
  - Includes coverage and front match breakdowns, likelihoods of pressures/stunts/tendencies by situation.
- Recode PFF data into part of the defensive playbook to provide a comprehensive pass rush report to the defensive staff.
  - Details what fronts, pressures, disguises, packages etc the opponent offense has struggled against.
  - Breakdown opponent pass protection rules, such as when they 5-0 or what direction they slide, to help game plan rushes.

**Football Data Scientist, Jacksonville Jaguars.**

2023-2025

- Sat in the offensive-line room and run unit meetings **working directly with the Run Game Coordinator on game planning.**
- **Charted defensive looks per play in-game** and used the information we prepared throughout the week and the real time defensive play calls to **provide efficiency statistics and suggestions based on looks we were getting.**
- Built a system that **uses data to breakdown almost every aspect of a play**, briefly:
  - 200+ defensive looks (fronts, coverage, techniques etc; can differentiate small nuances such as shade vs 2i).
  - 50+ specific run plays (i.e. OT counter or weakside titezone with a slice).
  - Side of the run strength, pass strength, safety rotation and widest technique.
  - Blocking combinations and sequences (i.e. playside C-G combination where the G gets to the WILL).
  - Half and full-field route combinations.
  - Protection used (i.e. play action, 5-0, jet/ cross jet plus who is chipping or checking).
  - Motion used on the play and how it altered the formation and/or run strength.
  - Blitz types (safety, linebacker, DL) in conjunction with where they were aligned.
- With this database, **provide extremely nuanced reports on the upcoming opponent**, such as what fronts, coverage, shell etc, we expect by game state and what types of plays and protection have been least/ most effective, therefore informing coaching staff of optimal plays to install that week, and when they should be called.
  - **Example:** Opponent is likely to play a 6 technique if facing gun near Y off, and the best run vs that is a gap scheme.
- Created a **protection SOP** detailing blitz packages, **position/players most likely to stunt/ rush** by situation.
- Made weekly **organized cutups based on defensive looks or scheme**, as well as **pass rush tapes for the offensive line.**
- Leveraged data to **find specific runs that matched the opponent's weaknesses intended to exploit.**
- Contributed to the analytics draft model by generating a play-level **player valuation model.**
- Various **free agency and draft projects** such as positional value per round, age cut-offs and players likely to "break out."
- Utilized GPS data to **plot the track of the running back on widezone plays** to communicate to the run unit the ideal path.
- Provided statistics on coaching trajectories that aided in the **hiring of staff.**

**Graduate Student Researcher, University of Colorado Boulder, Institute for Behavioral Genetics.**

2018-2023

- Research projects on the genetics of sleep health, psychiatric disorders, cognitive functioning and stress.
- Work resulted in 4 first author peer-reviewed papers, 12 co-authored peer-reviewed papers and 7 conference presentations
- Taught statistics to graduate students and undergraduate students on linear data analysis using R.