# Neil Dey

[ndey3@ncsu.edu](mailto:ndey3@ncsu.edu) | [neild799@gmail.com](mailto:neild799@gmail.com) | [neil-dey.github.io](https://neil-dey.github.io)

2435 Avent Ferry Rd. Apt J, Raleigh, NC, 27606

## EDUCATION

**North Carolina State University**                                   **GPA: 4.0**
PhD Candidate in Statistics                            *Expected Graduation: Summer 2025*

- Dissertation: *Valid Inference in Risk Minimization Problems*
- Advisor: Jonathan P. Williams

**North Carolina State University**                                   **GPA: 4.0**
B.S. in Computer Science & Mathematics (with Honors)                        *2017 – 2020*

## PEER-REVIEWED PUBLICATIONS

[†] Undergraduate student working under my supervision

**Machine Learning Theory**

- **Neil Dey**, Ryan Martin, and Jonathan P. Williams. Generalized Universal Inference on Risk Minimizers. *R&R: Journal of the Royal Statistical Society Series B*, 2024+.
- **Neil Dey** and Jonathan P. Williams. Valid Inference for Machine Learning Model Parameters. *In Review: Electronic Journal of Statistics*, 2024+.
- **Neil Dey**, Ryan Martin, and Jonathan P. Williams. Neil Dey, Ryan Martin, and Jonathan P Williams' contribution to the Discussion of "Safe Testing" by Grünwald, de Heide, and Koolen. *Journal of the Royal Statistical Society Series B*, June 2024.

**Natural Language Processing**

- **Neil Dey**, Matthew D. Singer, Srijan Sengupta, and Jonathan P. Williams. Word Embeddings as Statistical Estimators. *Shankya B*, May 2024.
- **Neil Dey**, Jing Ding, Jack Ferrell[†], Carolina Kapper[†], Maxwell Lovig[†], Emiliano Planchon[†], and Jonathan P. Williams. Conformal Prediction for Text Infilling and Part-of-Speech Prediction. *New England Journal of Statistics in Data Science*, October 2022.

**Applications of Stochastic Processes**

- **Neil Dey**, Madeline Mariano[†], Adam Ousherovitch[†], Fiona Romanoschi[†], Natalia Vélez-Ríos[†], and Jonathan P. Williams. Modeling Political Violence Data with Time Series. *In Preparations*, 2024+.
- Jason A. Osborne, Melody Wen, and **Neil Dey**. MLBDecideR: A Shiny App for Baseball. *Notices of the American Mathematical Society*, October 2020.

## TEACHING AND ADVISING

**Courses Taught as Instructor of Record**

- Introduction to Statistics (undergraduate; ST311 NCSU; ~ 70 students)  *Fall 2023, Spring 2024, Fall 2024*
- Statistics Qualifying Exam Bootcamp (graduate; NCSU; 12 students)                    *Summer 2022*

**Mentoring**

- Graduate mentor for DRUMS Research Experience for Undergrads (REU)
  - Madeline Mariano (Rochester Institute of Technology; REU student 2024)
  - Adam Ousherovitch (University of California, Berkley; REU student 2024)
  - Fiona Romanoschi (University of Texas, Austin; REU student 2024)
  - Natalia Vélez-Ríos (Vasser College; REU student 2024)

- ◦ Jack Ferrel (University of Florida; REU student 2021)
- ◦ Carolina Kapper (High Point University; REU student 2021)
- ◦ Maxwell Loving (University of Louisiana, Lafayette; REU student 2021)
- ◦ Emiliano Planchon (NCSU; REU student 2021)

**Teaching Assistantships**

- Experimental Statistics for Engineers II (graduate; ST516 NCSU)                                *Spring 2023*
- Statistical Learning and Data Analytics (undergraduate; ST495 NCSU)              *Fall 2021*
- Fundamentals of Statistical Inference II (graduate; ST502 NCSU)                       *Fall 2021*
- Mathematical Analysis I (undergraduate; MA425 NCSU)                                       *Spring 2019*

## POSTER PRESENTATIONS

- Anytime-Valid Generalized Universal Inference on Risk Minimizers, *Joint Statistical Meetings*, Portland, Oregon, August 2024.
- Valid Inference for Machine Learning Model Parameters. *Joint Statistical Meetings*, University of Toronto, August 2023.
- Valid Inference for Machine Learning Model Parameters. *Eighth Bayesian, Frequentist, and Fiducial Conference*, University of Cincinnati, May 2023.
- Missing Values Singular Value Decomposition for Approximating Word2Vec Factorization of Pointwise Mutual Information. *Seventh Bayesian, Frequentist, and Fiducial Conference*, University of Toronto, May 2022.

## AWARDS

- William Mendenhall Graduate Award for Excellence in Teaching of Statistics        *2024*
- B.B. Bhattacharyya Graduate Fund for Excellence Award                                      *2022*
- Nominated for Outstanding Teaching Assistant Award                                          *2022*
- Provost's Doctoral Fellowship                                                                              *2020*

## INDUSTRY EXPERIENCE

- Amazon (Applied Science Intern)                                      *Irvine, CA; June 2021 – August 2021*
- Boeing (Data Science Intern)                                          *Seattle, WA; June 2020 – August 2020*
- Amazon (Software Engineering Intern)                              *Seattle, WA; June 2019 – August 2019*
- Cengage/WebAssign (Software Engineering Intern)          *Raleigh, NC; June 2018 – August 2018*