

# Ngoc Minh Quang Nguyen

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## EDUCATION

<b>Carnegie Mellon University</b> PhD, Statistics & Data Science	2022 – present
<b>Loyola University Chicago</b> MS, Applied Statistics	2020 – 2021
<b>Wittenberg University</b> BS, Mathematics & Data Science	2017 – 2020

## RESEARCH EXPERIENCE

<b>Carnegie Mellon University</b> Graduate Researcher (Advisor: Ron Yurko)	2023 – present
<b>Carnegie Mellon University</b> Advanced Data Analysis Project (Advisor: Nynke Niezink)	2022 – 2023
<b>Loyola University Chicago</b> Graduate Research Assistant (Advisor: Gregory J. Matthews)	2020 – 2021
<b>Wittenberg University</b> Senior Honors Thesis Research (Advisor: Douglas M. Andrews)	2019 – 2020

## ACADEMIC EXPERIENCE

<b>Carnegie Mellon University</b> Instructor Summer Undergraduate Research Experience (SURE) in Statistics	Summer 2024
Teaching Assistant 36-460/660: Sports Analytics	Spring 2024
36-468/668: Text Analysis	Fall 2023, Fall 2024
Carnegie Mellon Sports Analytics Camp (CMSACamp)/ Summer Undergraduate Research Experience (SURE) in Statistics	Summer 2023
36-402/608: Advanced Methods for Data Analysis	Spring 2023
36-401/607: Modern Regression	Fall 2022
<b>Loyola University Chicago</b> Instructor STAT 103: Fundamentals of Statistics (3 sections)	Spring 2022
<b>Wittenberg University</b> Math Workshop Head Tutor	2018 – 2020
Faculty Aide	2018 – 2020
<b>Clarkston Senior High School</b> S.U.M. (Student Understanding Math) Assistant	2017

## PUBLICATIONS

### Journal Articles

**Q. Nguyen**, R. Yurko, G. J. Matthews. Here Comes the STRAIN: Analyzing Defensive Pass Rush in American Football with Player Tracking Data. *The American Statistician* 78(2), 199–208. 2024. doi: [10.1080/00031305.2023.2242442](https://doi.org/10.1080/00031305.2023.2242442); arXiv: [2305.10262](https://arxiv.org/abs/2305.10262).

**Editors' Choice Collection.**

**Q. Nguyen**, G. J. Matthews. Filling the Gaps: A Multiple Imputation Approach to Estimating Aging Curves in Baseball. *Journal of Sports Analytics* 10(1), 77–85. 2024. doi: [10.3233/JSA-240744](https://doi.org/10.3233/JSA-240744); arXiv: [2210.02383](https://arxiv.org/abs/2210.02383).

N. M. Lemon, L. K. Taylor, M. A. Rech, **Q. Nguyen**, G. J. Matthews, G. Lew, S. Lovett. Utility of D-dimer in predicting pulmonary embolism in patients with COVID-19 presenting to the emergency department. *Journal of the American College of Emergency Physicians Open* 5(4), e13237. 2024. doi:[10.1002/emp2.13237](https://doi.org/10.1002/emp2.13237)

B. S. Baumer, G. J. Matthews, **Q. Nguyen**. Big Ideas in Sports Analytics and Statistical Tools for their Investigation. *Wiley Interdisciplinary Reviews: Computational Statistics* 15(6), e1612. 2023. doi: [10.1002/wics.1612](https://doi.org/10.1002/wics.1612); arXiv: [2301.04001](https://arxiv.org/abs/2301.04001).

**Q. Nguyen**, H. Butler, G. J. Matthews. An Examination of Olympic Sport Climbing Competition Format and Scoring System. *Journal of Data Science* 20(2), 156–167. 2022. doi: [10.6339/22-JDS1042](https://doi.org/10.6339/22-JDS1042); arXiv: [2111.05310](https://arxiv.org/abs/2111.05310).

**Q. Nguyen**. Poisson Modeling and Predicting English Premier League Goal Scoring. *New England Journal of Statistics in Data Science* 1(1), 95–101. 2023. doi: [10.51387/21-NEJSDS1](https://doi.org/10.51387/21-NEJSDS1); arXiv: [2105.09881](https://arxiv.org/abs/2105.09881).

### Preprints

R. Yurko, **Q. Nguyen**, K. Pelechris. NFL Ghosts: A framework for evaluating defender positioning with conditional density estimation. 2024+. arXiv: [2406.17220](https://arxiv.org/abs/2406.17220).

**Q. Nguyen**, R. Jiang, M. Ellingwood, R. Yurko. Fractional Tackles: Leveraging Player Tracking Data for Within-Play Tackling Evaluation in American Football. 2024+. arXiv: [2403.14769](https://arxiv.org/abs/2403.14769).

### Other

**Q. Nguyen**, L. Jiang, M. Ellingwood, R. Yurko. Momentum-based fractional tackles. NFL Big Data Bowl 2024. <https://www.kaggle.com/code/tindata/momentum-based-fractional-tackles>

G. J. Matthews, **Q. Nguyen**. STRAIN: Sacks, Tackles, Rushing, Aggression INDEX. NFL Big Data Bowl 2023. <https://www.kaggle.com/code/statsinthewild/strain-sacks-tackles-rushing-aggression-index>

B. S. Baumer, **Q. Nguyen**, G. J. Matthews. CRAN Task View: Sports Analytics. The Comprehensive R Archive Network. 2022. <https://cran.r-project.org/web/views/SportsAnalytics.html>

## SELECTED PRESENTATIONS

### Invited

**Q. Nguyen**. Advances in pass rush and tackling evaluation in American football with player tracking data. 2024 *Joint Statistical Meetings*. August 2024.

**Invited Paper Session**

**Q. Nguyen, L. Jiang, M. Ellingwood, R. Yurko.** Fractional tackles. *UConn Sports Analytics Symposium*. April 2024.

**Big Data Bowl Finalists Session**

**Q. Nguyen, L. Jiang, M. Ellingwood, R. Yurko.** Momentum-based fractional tackles. *NFL Big Data Bowl 2024 Final*. February 2024.

**Finalist (Top 5 + \$12,500 prize)**

**Q. Nguyen.** Opportunities in sports analytics with player tracking data: A case study of NFL pass rush evaluation. *Data Science Seminar, Loyola University Chicago*. November 2023.

**Q. Nguyen, R. Yurko, G. J. Matthews.** Here Comes the STRAIN: Analyzing Defensive Pass Rush in American Football with Player Tracking Data. *New England Symposium on Statistics in Sports*. September 2023.

**Featured talk**

G. J. Matthews, **Q. Nguyen.** STRAIN: Sacks, Tackles, Rushing, Aggression INdex. *NFL Big Data Bowl 2023 Final*. March 2023.

**Finalist (Top 8 + \$10,000 prize)**

**Q. Nguyen, G. J. Matthews.** Estimating Aging Curves: Using Multiple Imputation to Examine Career Trajectories of MLB Offensive Players. *Carnegie Mellon Sports Analytics Conference*. October 2022.

**Third Place, Open Methodology Track, Reproducible Research Competition**

**Q. Nguyen, H. Butler, G. J. Matthews.** An Examination of Olympic Sport Climbing Competition Format and Scoring System. *Cascadia Symposium on Statistics in Sports*. September 2022.

**Q. Nguyen, H. Butler, G. J. Matthews.** An Examination of Sport Climbing's Competition Format and Scoring System. *Carnegie Mellon Sports Analytics Conference*. November 2021.

**Winner, Open Methodology Track, Reproducible Research Competition**

**Posters**

**Q. Nguyen, H. Butler, G. J. Matthews.** Concerns Regarding Sport Climbing Competition Format and Scoring System: Who's Suffering? *UConn Sports Analytics Symposium*. October 2021.

**Winner, Student Poster Award.**

**Q. Nguyen.** Poisson Modeling and Predicting English Premier League Goal Scoring. *NextGen: Data Science Day - New England Statistical Society*. November 2020.

**Co-Winner, Poster Competition, Undergrad/MS Group.**

**Q. Nguyen.** Poisson Modeling and Predicting English Premier League Goal Scoring. *Carnegie Mellon Sports Analytics Conference*. October 2020.

**Q. Nguyen.** Poisson Modeling and Predicting English Premier League Goal Scoring. *UConn Sports Analytics Symposium*. October 2020.

**Workshops**

**Q. Nguyen.** Big Data Bowl Workshop. *Carnegie Mellon Sports Analytics Conference*. November 2023.

**Guest Lectures**

**Q. Nguyen.** Big Data Bowl: Overview, Getting Started, My Experience, and more. *Summer Undergraduate Research Experience in Statistics (Carnegie Mellon Sports Analytics Camp)*. July 2023.

**Q. Nguyen.** Web Scraping: A Primer. *Summer Undergraduate Research Experience in Statistics (Carnegie Mellon Sports Analytics Camp)*. July 2023.

## HONORS & AWARDS

<b>ASA Section on Statistics in Sports Student Funding</b> ASA Section on Statistics in Sports	2024
<b>Graduate Student Assembly/Provost Conference Funds</b> Carnegie Mellon University	2024
<b>UCSAS 2024 Student Travel Support</b> UConn Sports Analytics Symposium 2024	2024
<b>University of Toronto Sports Analytics Group (UTSPAN) Scholarship</b> Cascadia Symposium on Statistics in Sports (CASSIS) 2022	2022
<b>Merit Award</b> MS in Applied Statistics Program, Loyola University Chicago	2020 – 2021
<b>Summa Cum Laude</b> Graduated with the highest distinction, Wittenberg University	2020
<b>Departmental Honors</b> Department of Mathematics and Computer Science, Wittenberg University	2020
<b>Phi Beta Kappa</b> Omicron of Ohio Chapter, Wittenberg University	2020
<b>Pi Mu Epsilon</b> Ohio Upsilon Chapter, Wittenberg University	2020
<b>The Charles and Elsie Little Mathematics Award</b> Department of Mathematics and Computer Science, Wittenberg University Awarded to the most outstanding senior majoring in mathematics and data science	2020
<b>Pick and Pen</b> Wittenberg University	2019
<b>Mathematics 202 Award</b> Department of Mathematics and Computer Science, Wittenberg University Awarded to an outstanding first-year student in the introductory calculus sequence	2018
<b>Textbook Award</b> Department of Mathematics and Computer Science, Wittenberg University	2018
<b>Phi Eta Sigma</b> Wittenberg University	2018
<b>Dean's List</b> Wittenberg University	All semesters; 2017 – 2020

## SKILLS

Computing: R/RStudio (expert); Python, SQL, SAS, Git/GitHub (intermediate)  
Typesetting: markdown,  $\text{\LaTeX}$  (proficient)

Bilingual: Vietnamese (native language) and English (proficient)

## SERVICES

### Organizer

Statistics in sports reading/research group

Department of Statistics & Data Science, Carnegie Mellon University

2023 – present

### Program Committee

UConn Sports Analytics Symposium

2024

Connecticut Sports Analytics Symposium

2025

### Reviewer

Journal of Quantitative Analysis in Sports

Machine Learning

The American Statistician

### Judge

USOPC Data Challenge

2024

UCSAS 2024 Student Poster Award

2024

CMSAC 2024 Reproducible Research Competition

2024

### Mentoring

Women in Data Science (WiDS) Chicago Datathon

2022

### Statistical Consulting

Loyola University Chicago

2021 – 2022

Clients: Stritch School of Medicine; Department of Biology; City of Milwaukee Assessor's Office

## MEDIA

Committee Collaboration Yields Editors' Choice Collection

2024

Amstat News (American Statistical Association)

<https://magazine.amstat.org/blog/2024/01/02/editors-choice-collection>

An Examination of Sport Climbing with Quang Nguyen

2022

Open Source Sports Podcast, Episode IX Guest

<https://opensourcesports.substack.com/p/an-examination-of-sport-climbing-a1e>

Viz Buzz

2022

Episodes 2, 3, 4, 5 Contestant (Episodes 3 & 4 Lap Winner)

[https://youtube.com/playlist?list=PL2rVQ3cmgOyx\\_CdtKOA0oX2pikOcc\\_xu-](https://youtube.com/playlist?list=PL2rVQ3cmgOyx_CdtKOA0oX2pikOcc_xu-)

Can you pick the AFL's Brownlow Medal winner without knowing the first thing about

2021

Australian rules?

ABC News (Australia)

<https://www.abc.net.au/news/2021-09-19/afl-trying-to-predict-the-2021-brownlow-medal-winner/100472246>

*Last updated October 18, 2024*