

Ngoc Minh Quang Nguyen

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EDUCATION

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

RESEARCH EXPERIENCE

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

ACADEMIC EXPERIENCE

Carnegie Mellon University Instructor Summer Undergraduate Research Experience (SURE) in Statistics	Summer 2024
Teaching Assistant 36-460/660: Sports Analytics 36-468/668: Text Analysis Carnegie Mellon Sports Analytics Camp (CMSACamp)/ Summer Undergraduate Research Experience (SURE) in Statistics	Spring 2024, Spring 2025 Fall 2023, Fall 2024 Summer 2023
36-402/608: Advanced Methods for Data Analysis 36-401/607: Modern Regression	Spring 2023 Fall 2022
Loyola University Chicago Instructor STAT 103: Fundamentals of Statistics (3 sections)	Spring 2022
Wittenberg University Math Workshop Head Tutor Faculty Aide	2018 – 2020 2018 – 2020
Clarkston Senior High School 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. Pelechrinis. 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, R. Yurko. Down, set, hut! Explaining variability in snap timing on plays with motion. NFL Big Data Bowl 2025. <https://www.kaggle.com/code/tindata/down-set-hut>

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 + Presented at 2024 NFL Scouting Combine)

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 + Presented at 2023 NFL Scouting Combine)

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. Building a performance metric with player tracking data. *Connecticut Sports Analytics Symposium*. April 2025.

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

ASA Section on Statistics in Sports Student Funding 2024
ASA Section on Statistics in Sports

Graduate Student Assembly/Provost Conference Funds 2024
Carnegie Mellon University

UCSAS 2024 Student Travel Support 2024
UConn Sports Analytics Symposium 2024

University of Toronto Sports Analytics Group (UTSPAN) Scholarship 2022
Cascadia Symposium on Statistics in Sports (CASSIS) 2022

Merit Award 2020 – 2021
MS in Applied Statistics Program, Loyola University Chicago

Summa Cum Laude 2020
Graduated with the highest distinction, Wittenberg University

Departmental Honors 2020
Department of Mathematics and Computer Science, Wittenberg University

Phi Beta Kappa 2020
Omicron of Ohio Chapter, Wittenberg University

Pi Mu Epsilon 2020
Ohio Upsilon Chapter, Wittenberg University

The Charles and Elsie Little Mathematics Award 2020
Department of Mathematics and Computer Science, Wittenberg University
Awarded to the most outstanding senior majoring in mathematics and data science

Pick and Pen 2019
Wittenberg University

Mathematics 202 Award 2018
Department of Mathematics and Computer Science, Wittenberg University
Awarded to an outstanding first-year student in the introductory calculus sequence

Textbook Award 2018
Department of Mathematics and Computer Science, Wittenberg University

Phi Eta Sigma
Wittenberg University

2018

Dean's List
Wittenberg University

All semesters; 2017 – 2020

SKILLS

Computing: R/RStudio (expert); Python, SQL, SAS, Git/GitHub (intermediate)

Typesetting: markdown, L^AT_EX (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

WIREs Computational Statistics

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_CdtKOAOoX2pikOcc_xu-

Can you pick the AFL's Brownlow Medal winner without knowing the first thing about Australian rules? 2021

ABC News (Australia)

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

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