Ngoc Minh Quang Nguyen

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EDUCATION

Carnegie Mellon University   2022 – present
PhD, Statistics & Data Science

Loyola University Chicago   2020 – 2021
MS, Applied Statistics

Wittenberg University   2017 – 2020
BS, Mathematics & Data Science

RESEARCH EXPERIENCE

Carnegie Mellon University   2023 – present
Graduate Researcher (Advisor: Ron Yurko)

Carnegie Mellon University   2022 – 2023
Advanced Data Analysis Project (Advisor: Nynke Niezink)

Loyola University Chicago   2020 – 2021
Graduate Research Assistant (Advisor: Gregory J. Matthews)

Wittenberg University   2019 – 2020
Senior Honors Thesis Research (Advisor: Douglas M. Andrews)

ACADEMIC EXPERIENCE

Carnegie Mellon University
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
Carnegie Mellon Sports Analytics Camp (CMSACamp)/   Summer 2023
Summer Undergraduate Research Experience (SURE) in Statistics
36-402/608: Advanced Methods for Data Analysis   Spring 2023
36-401/607: Modern Regression   Fall 2022

Loyola University Chicago
Instructor
STAT 103: Fundamentals of Statistics (3 sections)   Spring 2022

Wittenberg University
Math Workshop Head Tutor   2018 – 2020
Faculty Aide   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; arXiv: 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; arXiv: 2210.02383.

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). 2023. doi: 10.1002/wics.1612; arXiv: 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; arXiv: 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; arXiv: 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.

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.

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.

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

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

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   2018
Wittenberg University

Dean's List   All semesters; 2017 – 2020
Wittenberg University

SKILLS

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

Typesetting: markdown, 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

Reviewer
Journal of Quantitative Analysis in Sports
Machine Learning
The American Statistician

Judge
USOPC Data Challenge   2024
UCSAS 2024 Student Poster Award   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   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

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