

# Brendan C. Matthys

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## EDUCATION

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**University of Michigan**, Ann Arbor, MI

*August 2021 - Present*

*Master's of Applied Statistics*

- Regression, Multivariate Analysis, Statistical Consulting, Data Science and Analytics with R, DS for Python, SQL, NLP (Python)

**Bucknell University**, Lewisburg, PA

*August 2017- May 2021*

*Bachelor of Science in Mathematical Economics*

- Presidential Fellow: Research-based merit scholarship awarded to top 1% of first-year applicants.

## SKILLS AND PROFESSIONAL SOCIETIES

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**Exams:** Actuary Exam FM

**Computer Skills:** Python, R, SQL, Microsoft Excel, Machine Learning, Data Analysis, Tableau, NLP, MATLAB, Stata, PyTorch

**Certifications:** Databases and SQL for Data Science with Python, Coursera

**American Statistical Association**

- ICES VI (International Conference on Establishment Statistics) Attendee

## PROJECTS

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**March Madness Predictive Model**, University of Michigan

*March 2022*

- Compared Random Forest, Logistic Regression, KNN, and SVM models to predict March Madness game outcomes based on historical March Madness data scraped via Python.
- Assessed model strength to determine which predictors were the strongest in win result.

**"How Does the Balance of an NBA Team Affect Win Percentage?"**, Bucknell University

*May 2021*

- Designed a fixed effects panel regression model in R to assess how balance of NBA teams can affect win percentage.
- Created a unique statistic to assess skill balance of NBA teams, and used Pandas for successful data collection

**NFL/NBA Modeling**, Personal Project

*Winter 2020*

- Created a MC simulation-based model in Excel to predict NFL and NBA teams' wins and spread performances.
- Learned how to use functions such as importxml to gather data and how to optimize model parameters using Solver.

**NFL Data Visualizations**, Personal Project

*Fall 2020*

- Built Tableau dashboards to meaningfully convey trends of NFL teams and generated insightful results.

**Root Approximation Theorem**, Personal Project

*Fall 2020*

- Created a unique formula to approximate roots using basic mathematical capabilities

## WORK EXPERIENCE

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**University of Michigan**, Ann Arbor, MI

*Graduate Student Mentor / Graduate Student Instructor*

*January 2022 - Present*

- Promoted to GSM. Added responsibilities include writing weekly labs for 800 students and mentoring current GSP's.
- Taught lab sections, held office hours, and graded assignments for STATS 250 in the 2022 Winter, Spring, Summer, Fall, and 2023 Winter terms.

**Equitable Insurance Co**, Remote Internship

*Actuarial Intern, Model Validation Team*

*June 2020 - August 2020*

- Built an independent Excel tool to consolidate Cashflow Testing model output to validate the tool used for production.
- Networked with actuarial managers and directors to compose an oral report on VNB (Value New Business).
- Enrolled in daily classes for Long Term Actuarial Mathematics and Excel/VBA including creating a model to predict reinsurance cashflows.

**Bucknell University Economics Department**, Lewisburg, PA

*Fall 2017 – May 2021*

*Presidential Fellow*

- Work alongside professors in the economics and psychology departments on research projects ranging from macroeconomics to cognitive psychology.

## EXTRACURRICULAR ACTIVITIES

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**Mathematical Association of America**, Bucknell University

*September 2019 – May 2021*

- President- plan and manage the different events the MAA hosts and oversee the executive board.
- Treasurer- create and implement a \$1,500 budget for three events per semester

**Sigma Alpha Epsilon**, Bucknell University

*September 2018 – May 2021*

- Executive Board- provides input on all of the internal workings of the fraternity
- Recruitment Chair- Increased recruitment class by 100% in size. Created and adhered to a detailed budget and schedule to optimize member recruitment.