

**Benjamin Nicholson** +(1) 321 326 4224 [nicholson.benjamin.t@gmail.com](mailto:nicholson.benjamin.t@gmail.com) GitHub: [bennicholson2](https://github.com/bennicholson2)

## Education

**Masters in Applied Mathematics & Statistics – Stony Brook University** *Long Island, NY, Dec 2026*  
Relevant Coursework: Simulation & Modeling, Foundations of Quantitative Finance, Analytical Methods

**Bachelor of Science in Data Science - Seton Hill University** *Greensburg, PA, May 2025*  
Cumulative GPA: 3.7/4.0 Department GPA: 3.6/4.0 Dean's List: Spring 2022, Spring 2024, Fall 2024  
Honors: Academic Scholarship NCAA DII Soccer Team Athletic Scholarship 2025 Data Science Honors Award  
Relevant Coursework: Probability & Statistics II (calculus-based probability), Algorithms Analysis, Mathematical Modelling, Graph Theory, Applied Statistics & Modelling, Linear Algebra, Calculus III, Numerical Analysis

## Work Experience

**Student Affairs Data Analyst | Seton Hill University** *May 2025-Aug 2025*  
- Designed and integrated a normalized relational database into an existing campus wide data warehouse using SQL Server, supporting 20+ staff members across 6 subdivisions of the student affairs department  
- Built a front-end staff UI to generate reports, create dashboards, and evaluate programming efforts across campus

**Marketing Data Analyst | CMMB** *Sep 2024-Mar 2025*  
- Developed donor profiles using clustering and statistical analysis to build out segmented email marketing  
- Calculated CLV and donor retention rates in Python to build understanding of donors  
- Undertook data quality improvement review of the donor database eliminating 50k+ duplicates / data integrity errors

## Related Project Experience (See GitHub)

**EY Data Challenge: Predicting Urban Heat Islands (Python)** *Jan 2025-Mar 2025*  
- Developed an Urban Heat Island predictive model ranking 86<sup>th</sup> out of 2000+ teams  
- Utilized Machine Learning technique, Random Forest with Bayesian Optimization to achieve an  $R^2$  of 0.9606  
- Leveraged computer vision through satellite imagery and geospatial data using Earth Science APIs

**Enhancing Technical Analysis with Data Science (Python)** *Jun 2024–Dec 2024*  
- Evaluated success of Technical Analysis investment strategy across sector ETFs during different business cycles  
- Optimized technical analysis techniques by using hyperparameter tuning, showing 2% improvements over 90 days  
- Developed a hybrid RSI-Bollinger Bands strategy, outperforming Buy and Hold Strategy by 10% over 90 days

**Assessing the Predictability of Life Expectancy (Excel/Python)** *Nov 2024- Dec 2024*  
- Performed parametric and non-parametric statistical tests: ANOVA, Mann-Whitney U Test  
- Generated multiple linear regression with 0.87  $R^2$  accuracy predicting life expectancy

## University Experience

**Captain of Men's Soccer Team** *Jan 2024-Dec 2024*  
- Assisted with the management of the team, while facilitating additional practices and workouts  
- Achieved the best team performance since the inception of the program (10-5-4)

**Head Resident Assistant** *Aug 2023-May 2025*  
- Performed progress reviews of Resident Assistants  
- Designed resource management tools for Residence department offices

**Fundraising Coordinator** *Aug 2023 & Aug 2024*  
- Managed a university wide project leading twelve members over a four-month period  
- Coordinated University wide fundraiser for breast cancer awareness in 2023 and 2024

**Statistics/Programming/Data Analytics Tutor** *Aug 2024-May 2025*  
Statistics: Introduced topics in probability theory, regression analysis, hypothesis testing with a scientific or business approach to leverage statistical principles in solving problems  
Programming: Instructed Python, R, and MATLAB programming languages in project-based assessments with focus on data science applications; implemented Pandas, NumPy, Matplotlib, dplyr, and ggplot2  
Data Analytics: Introduced descriptive/inferential statistics, data visualization, and analysis using Excel

## Skills

Languages: Python (Scikit-Learn, Pandas, NumPy, PyTorch), MySQL, R (ggplot2, dplyr), Excel (Pivot Tables)  
Numerical Methods: Numerical Linear Algebra, Differential Equations, Monte Carlo Simulations  
Advanced Tools: Gradient Descent, Reinforcement Learning, Neural Networks, Random Forests, Gradient Boost  
Soft Skills: Project Management, Communication, Teamwork, Time Management