

# Barry Daemi

(469) 422-3921 | [sargentbarry28@gmail.com](mailto:sargentbarry28@gmail.com) | [linkedin.com/in/barry-daemi](https://www.linkedin.com/in/barry-daemi)  
| Portfolio website: <http://www.barry-daemi.com>

## EDUCATION

Southern Methodist University, Dedman College of Humanities and Sciences, Dallas, TX

- Master of Science in Computation and Applied Mathematics, 12/2022
- Bachelor of Science in Mathematics, Departmental Distinction Honor, 05/2020
- Bachelor of Arts in Economics (Specialization in Econometrics), Departmental Distinction Honor, 05/2020

## SKILLS

Programming Languages: Python, Rust, MATLAB, R, SQL

Software Tools: Microsoft Office, SAS,

Mathematics and Statistics: Numerical Linear Algebra, Multivariate Statistics, ODEs, PDEs, Data Science, Neural Networks, General Linear Models, Machine Learning, Monte Carlo methods, Econometrics, Numerical Analysis, Iterative Methods.

## WORK EXPERIENCE

Collin College, Plano, TX

Temp-Full-Time Dual-Credit Professor of Mathematics, 01/2024-05/2024

Adjunct Professor of Mathematics, 08/2023-12/2023

- Taught College Algebra (MATH 1314), Foundation Math (MATH 0405), Pre-Calculus (MATH 2412), and Introduction to Statistics (MATH 1342).

Skills: Developed curriculum, assignments and assessments for undergraduate mathematics courses.

Ally Financial, Lewisville, TX

Data Science Intern, 05/2022-08/2022

- Developed machine learning model in Python to optimize auto loan collection treatments, reducing operational expenses by replacing 23,605 manual dialer calls with automated voicemail.
- Due to the models' performance, Ally Financial proceeded with acquisition of Dasceq Inc. supervised machine learning collection models.
- Created, cleaned, and formatted training, testing, and validation datasets using SAS and Python

Skills: Python, SAS, Statsmodels, Pandas, Scikit-learn, Numpy, General Linear Models

Southern Methodist University, Dallas, TX

Student-Worker: Mathematics and Economics Tutor at The Altshuler-LEC, 02/2020-05/2023

- Coordinated walk-in appointments for Mathematics and Economics, as well as programming assistance in Python, MATLAB and R for homework and project assignments.
- Provided tutoring on topics including calculus, linear algebra, numerical analysis, econometrics and data science.

## PUBLICATIONS AND PROJECTS

Developed a Delta Hedge Simulation Web Application (2025), [https://www.barry-daemi.com/Delta\\_Hedge\\_Simulation\\_App](https://www.barry-daemi.com/Delta_Hedge_Simulation_App)

Implemented Black-Scholes-Merton Model with Delta Hedging in Rust (2025),

[https://www.barry-daemi.com/blackscholesmerton\\_model\\_in\\_rust](https://www.barry-daemi.com/blackscholesmerton_model_in_rust)

Created a European Option Pricing Web Application (2024), [https://www.barry-daemi.com/Pricing\\_Option\\_App](https://www.barry-daemi.com/Pricing_Option_App)

Compared Statsmodels OLS to Linear Least Squares via QR Decomposition (2023),

[https://www.barry-daemi.com/statsmodels\\_ols\\_compared\\_to\\_least\\_squares\\_via\\_qr\\_decomposition](https://www.barry-daemi.com/statsmodels_ols_compared_to_least_squares_via_qr_decomposition)

Simulated stock portfolios using Monte Carlo methods in Python (2023),

[https://www.barry-daemi.com/monte\\_carlo\\_method\\_to\\_simulate\\_stock\\_portfolio](https://www.barry-daemi.com/monte_carlo_method_to_simulate_stock_portfolio)

Performed data exploration of simulated data using Microsoft Excel (2023),

[https://www.barry-daemi.com/Data\\_Exploration\\_of\\_simulated\\_Data\\_with\\_Microsoft\\_Excel2](https://www.barry-daemi.com/Data_Exploration_of_simulated_Data_with_Microsoft_Excel2)

Developed neural networks using the Micrograd package in Python (2023),

[https://www.barry-daemi.com/neural\\_network\\_development\\_with\\_micrograd\\_package](https://www.barry-daemi.com/neural_network_development_with_micrograd_package)

## HONOR SOCIETIES

Organizations: Omicron Delta Kappa, Alpha Chi Honor Society, Golden Key International Honor Society, Phi Theta Kappa, The National Society of Collegiate Scholars.