Barry Daemi

(469) 422-3921 | sargentbarry28@gmail.com | 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).
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
Implemented Black-Scholes-Merton Model with Delta Hedging in Rust (2025),
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
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
Simulated stock portfolios using Monte Carlo methods in Python (2023),
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_Microsift_Excel2
Developed neural networks using the Micrograd package in Python (2023),
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.