

DEWAN FAHIM

Email: df.bd71@gmail.com

EDUCATION

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- **Temple University, USA** *Aug 2026 – Current*
Ph.D. in Statistics
 - **University of North Florida, USA** *Aug 2024 – May 2026*
M.Sc. in Mathematical Science (Statistics Concentration)
GPA **4.00** out of **4.00**
 - **University of Dhaka, Dhaka, Bangladesh** *Jan 2023 – Aug 2024*
M.Sc. (Thesis) in Mathematics
 - **University of Dhaka, Dhaka, Bangladesh** *Jan 2018 – Dec 2022*
B.Sc. in Mathematics

AWARDS

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- **Outstanding Graduate Student in Statistics 2025-2026** *April 2026*
Department of Mathematics & Statistics, University of North Florida.

CONFERENCES & PRESENTATION

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- **Research Talk (Fourth Ospreys Math Conference, UNF)** *April 2026*
Ridit-Based Adaptive Allocation in Two-Stage Clinical Trials with Binary Outcomes
 - **Poster Presentation (Spring 2026 UNF Student Research Symposium)** *April 2026*
Ridit-Based Adaptive Allocation in Two-Stage Clinical Trials with Binary Outcomes.
 - **Invited Speaker (Orientation for Graduate Teaching Assistants, UNF)** *Aug 2025*
Balancing the Student and GTA Roles at UNF

RESEARCH EXPERIENCE

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- **Graduate Research Assistant, Fox School of Business, Temple University** *Aug 2026 – Current*
 - **Thesis, M.Sc. in Mathematical Science, University of North Florida** *Aug 2025 – April 2026*
Ridit-Based Adaptive Allocation in Two-Stage Clinical Trials with Binary Outcomes
Proposed a ridit-based adaptive allocation rule for multi-arm two-stage clinical trials with binary outcomes, compared against existing allocation rule under multiple optimality criteria. The procedure illustrated with a pancreatic cancer trial application.
 - **Research Collaborator, Indirect Mutualism Predator–Prey Dynamics, UNF** *June 2025 – May 2026*
Theoretical and numerical analysis of a three-species ecological system with indirect mutualism between prey species and a shared predator. Work includes stability, bifurcations, and coexistence conditions via eigenvalue analysis and parameter-driven simulations.
 - **Thesis, M.Sc. in Mathematics, University of Dhaka** *March 2023 – May 2024*
Analysis of Bifurcation and Controlling Chaos in a Discrete Prey–Predator System
Conducted in-depth analysis of a discrete-time predator-prey model, identifying key bifurcations and chaotic behavior using algebraic and numerical methods. Applied chaos control techniques to stabilize chaotic orbits.
 - **Final Year (Honours) Project, University of Dhaka** *Jan 2022 – Nov 2022*
A Brief Study on Cryptography and Cryptanalysis
Explored cryptographic algorithms with emphasis on asymmetric cryptography (RSA) and integration of number theory into encryption methods.

ACADEMIC SERVICES & TRAINING

- **Smart Center Tutor, University of North Florida** *May 2026 – July 2026*
- **Instructor of Record (Full Instructional Responsibility)** *June 2025 – May 2026*
College Algebra (Spring 2026), Trigonometry (Fall 2025), Mathematical Thinking (Summer 2025)
Department of Mathematics and Statistics, University of North Florida
- **Graduate Teaching Assistant**, Department of Mathematics and Statistics, UNF *Aug 2024 – May 2026*
Math and Statistics Tutor, SMART Center, UNF
Recitation: College Algebra (Fall 2024), Introductory Statistics (Spring 2025)
Grader: Linear Algebra (Fall 2024), Prob/Statistics for Engineers (Spring 2025), Probability and Statistics (Summer 2025)
- *The Data Scientist's Toolbox*, Johns Hopkins University (Coursera) *Feb – May 2020*
- *R Programming*, Johns Hopkins University (Coursera) *Feb – May 2020*

PUBLICATIONS & CLASS PROJECTS

- *Complex dynamics of a discrete prey–predator model with complex network and stochastic modeling incorporating a ratio-dependent Ivlev functional response.* <https://doi.org/10.1063/5.0248855> [\[Link\]](#)
- *Estimating Alligator Weight from Length: A Log-Transformed Regression Approach*
- *A Binary Classification Model to Predict Alzheimer's Disease*
- *Smoothing Splines: An Analysis of Nonlinear Function Estimation*
- *Exploratory Factor Analysis: Uncover Latent Factors in Metropolitan Statistical Areas*

RESEARCH INTERESTS

- Sequential analysis and adaptive clinical trial design
- Statistical learning and data-driven modeling
- Stochastic processes and applied probability
- Nonlinear dynamics, bifurcation theory, and chaos control
- Mathematical modeling of biological and epidemiological systems

PROGRAMMING & SOFTWARE SKILLS

- **Programming:** SAS, MATLAB, R Programming, Python
- **Software:** GitHub, Mathematica, MS Word, MS Excel, $\text{\LaTeX}$

LEADERSHIP EXPERIENCE

- **Vice President**, Ekushey Mathematical Society, University of Dhaka *April 2022 – May 2023*
- **Vice President**, University of Dhaka Ekushey Cultural Society *Feb 2022 – Feb 2023*
- **Captain**, Mathematics Football Team, University of Dhaka *2022/2023*