

Anisha Jean Mathias

Postdoctoral Researcher

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- 🔬 Toyon Statistical Lab



Professional Experience





- 📌 **Postdoctoral Research Associate** 09/2024–Present
Department of Mathematics, University of Arizona
 - * Collaborating with Dr. Henry Scharf on statistical models for dolphin movement tracking.
 - * Analyzing animal movement patterns with Bayesian models using R for visualization.
- 📌 **DCC Research Associate** 05/2024–08/2024
Research, Innovation and Impact, University of Arizona
 - * Researched knowledge graphs to enhance query response accuracy from RAG-extracted documents.
 - * Created visualizations in PowerBI and Tableau for effective data interpretation.
- 📌 **Assistant Professor** 08/2022 – 11/2023
Department of Mathematics, St Aloysius College
 - * Delivered graduate-level mathematics courses.
 - * Led academic collaborations and developed interdisciplinary online certificate program LaTeX.
- 📌 **Teaching Assistant** 01/2019– 01/2021
Department of Mathematics, CHRIST (Deemed to be University)
 - * Assisted professors with practical sessions using Python.

Education



- 📌 **Ph. D in Mathematics** 06/2018 – 11/2023
CHRIST (Deemed to be University), India
Thesis title: *A Study on Domination in Signed Graphs*
 - 📌 **M. Phil Mathematics** 06/2017 – 05/2018
CHRIST (Deemed to be University), India
Thesis title: *Edge Domination on Certain Families of Chemical Graphs.*
 - 📌 **M.Sc. Applied Mathematics** 06/2014 – 06/2016
Amity University, India.
 - 📌 **B.Sc. Mathematics** 06/2012 – 06/2014
University of Delhi, India
- GPA: (Verified by WES)
Total Graduate Semester Credits: **132.0** GPA: **3.29**
Total Undergraduate Semester Credits: **91.0** GPA: **3.77**

Research Publications






Journal Articles

- 1 Mathias, A. J., Sangeetha, V., & Acharya, M. (2023). Restrained critical and abundant signed graphs. *Advances and Applications in Discrete Mathematics*, 38(1), 49–68.
 doi:<https://doi.org/10.17654/0974165823018>
- 2 Mathias, A. J., Sangeetha, V., & Acharya, M. (2021). Critical concepts of restrained domination in signed graphs. *Discrete Mathematics, Algorithms and Applications*, 1–11.
 doi:<https://doi.org/10.1142/S1793830922500100>
- 3 Mathias, A. J., Sangeetha, V., & Acharya, M. (2020). Restrained domination in signed graphs. *Acta Universitatis Sapientiae, Mathematica*, 12(1), 155–163.  doi:10.2478/ausm-2020-0010
- 4 Mathias, A. J. (2018b). Edge domination number on graph variations. *International Journal of Mathematics And its Applications*, 6(1), 185–193. Retrieved from  <http://ijmaa.in/v6n1-s/185-193.pdf>

Thesis

-  Ph. D Thesis: A study on domination in signed graphs
-  M. Phil Thesis: Edge Domination in Certain Families of Chemical Graphs

Teaching Experience

-  **2023: St Aloysius College, India**
MATH G 503 DC1.1: Numerical Analysis
MATH G503 OE1.1(B): Applied Mathematics
-  **2022: St Aloysius College, India**
MATH G 503 DC1.1: Elementary Graph Theory
MATH G503 OE1.1(A): Introductory Mathematics
-  **2022: St Aloysius College, India**
MATH G 503 DC1.1: Elementary Graph Theory
MATH G503 OE1.1(A): Introductory Mathematics
-  **2020: CHRIST(Deemed to be University), India**
MAT551B: Mathematical Modelling using Python
MAT451: Introduction to Mathematical Modelling using Python
BBA134: Business Mathematics
-  **2019: CHRIST(Deemed to be University), India**
MAT 651C: Computational and Applied Mathematics using Python
MAT 651: Complex Analysis using Python
MAT 351: Introduction to Python Programming

Developed Courses

- Designed and offered online certificate course: **Introduction to Latex** (Online lectures available: Provided on Request)

Certification

- 2024
 - Google Advanced Data Analytics:** Awarded certificates upon successful completion of the courses authorized by Google and offered through Coursera.
 - Advanced Data Visualization with Tableau,** Awarded certificate on successfully completing the course authorized by Tableau Learning Partner and offered through Coursera.
 - Foundations of Data Science,** Awarded certificate on successfully completing the course authorized by Google and offered through Coursera.
- 2021
 - Introduction to Data Science in Python,** Awarded course certificate on completing first course out of five enrolled course 'Applied Data Science with Python' authorized by University of Michigan and offered through Coursera.
- 2020
 - Mathematical Foundations for Cryptography,** Awarded course certificate on successfully completing an online non-credit course authorized by University of Colorado System and offered through Coursera.
- 2011-2013
 - A-Level Diploma in Information Technology** , National Institute of Electronics and Information Technology.
Project title: *Hospital Management*

Technical Skills

- Programming Languages
 - Python, MATLAB, R
- Misc.
 - LaTeX typesetting, Tableau and PowerBI.

Language

- English
- Hindi