

Ryan Sullivan

+1 (401) 282 9512 | sullivanryan15@gmail.com | ryansullivan3.github.io

PhD graduate proficient in pure and applied Mathematics with experience in modeling, analysis, and machine learning seeking opportunities in applied mathematics .

EDUCATION

University of Rhode Island, PhD in Pure Mathematics Rhode Island, USA	GPA: 3.65 / 4.0	June 2024
University of Rhode Island, MS in Pure Mathematics Rhode Island, USA	GPA: 3.65 / 4.0	June 2022
University of Rhode Island, BS in Pure Mathematics Rhode Island, USA	GPA: 3.44 / 4.0	Aug 2020
Cranston High School West , Rhode Island, USA		June 2017

Research Area: Difference Equations, Differential Equations, Discrete Time Signal Processing

Relevant Skills: Probability + Stochastic Calculus, Functional Analysis, Optimization, Linear Algebra

SKILLS

- **Programming Languages:** Python, R, HTML, CSS, LaTeX, matlab
- **Tools:** Pandas, NumPy, matplotlib, seaborn, scikit-learn, Jupyter Notebook, Excel, Mathematica, GitHub
- **Technical Skills:** Signal Processing, Data Analysis, Data Cleaning, Data Visualization, Machine Learning, AI
- **Personal Skills:** Presentation, Communication, Problem Solving, Leadership

PUBLICATIONS

- Convergent Solutions to Non-Autonomous Difference Equations** Under Review
- Created and analyzed generalized versions of many non-linear recursive sequence models for scientific application
 - Contributed general results in the area of discrete dynamical systems and difference equations
- Dynamics of Third Order Beverton Holt Difference Equation** Under Review
- Analyzed local and global dynamics of third order generalized version of discretized logistic map
 - Proved general results for basin and boundary of attraction of substantial class of maps defined on \mathbb{R}^3

TALKS

AMS Int. Conference <i>Dynamics of Non-autonomous Pielou Equation and Ricker's Map</i> Brown University, Rhode Island	April 2024
AMS Int. Conference <i>Dynamics of Third Order Beverton Holt Difference Equation</i> University of Buffalo, New York	Sept 2023
URI Seminar <i>Convergent Solutions to Non-Autonomous Difference Equations</i> University of Rhode Island	March 2024
URI Seminar <i>Dynamics of Non-Autonomous Pielou Equation and Ricker's Map</i> University of Rhode Island	Oct 2023
URI Seminar <i>Dynamics of Third Order Beverton Holt Difference Equation</i> University of Rhode Island	Feb 2023
URI Seminar <i>Periodic Forced Rational Difference Equations</i> University of Rhode Island	Oct 2022

PROJECTS

- **NFL Score Prediction:** Predicts home and away scores of future NFL games - *Random Forest - ML - Data Cleaning*
- **Tomorrows Stock Open:** Predict the open price of a given stock - *Machine Learning - Python - Sentiment Analysis*
- **Pielou's Model:** Analyzes dynamics of Pielou's biological population model with varying types of stocking and harvesting

EXPERIENCE

- University of Rhode Island, Graduate Teaching Assistant** Aug 2020 - May 2024
- Lead medium to large lectures teaching Calculus I and Calculus II, facilitated group work
 - Contributed to increasing student engagement and understanding by holding extra review sessions and office hours
- University of Rhode Island, Undergraduate Teaching Assistant** September 2018 - Aug 2020
- Assisted instructors with large lectures, grading, and tutoring
- Carmax, Sales Associate** May 2018 - May 2020
- Gained skills in teamwork, communication, integrity, and attention to detail.

ORGANIZATIONS

Graduate Assistants United	<i>Fall 2020-Spring 2024</i>	Graduate Student Association	<i>Fall 2020-Spring 2024</i>
The Xtet (Jazz Band)	<i>2021-Current</i>	URI Jazz Combos - Leader	<i>Fall 2017-Spring 2021</i>
URI Big Band - Section Leader	<i>Fall 2017-Spring 2022</i>	URI Alpine Racing Team	<i>Fall 2017-Spring 2020</i>
Pi Mu Epsilon Honors Society	<i>Fall 2018-Spring 2020</i>	Newport Jazz Festival - Performance	<i>Aug 2016, 2017, 2018, 2019</i>