

AARON J. SCHEINER

Scheiner.Aaron@gmail.com

EDUCATION

Rutgers University Honors College

New Brunswick, NJ

Candidate for Bachelor of Science: Double Major in Mathematics and Computer Science

May 2022

- Enrolled as a Rutgers Presidential Scholar, the most prestigious and highly competitive scholarship offered by Rutgers

Relevant Coursework: Design and Analysis of Computer Algorithms, Computer Architecture, Data Structures, Mathematical Theory of Probability, Introduction to Theory of Functions of a Complex Variable, Honors Linear Algebra, Honors Introduction to Real Analysis, Honors Introduction to Mathematical Reasoning, Elementary Differential Equations, Introductory Linear Algebra

RESEARCH AND INDUSTRY EXPERIENCE

Rutgers Winfree Lab

New Brunswick, NJ

Winfree Lab – Undergraduate Researcher

January 2020 – Present

- Modeling North American firefly distributions and biodiversity, in collaboration with the Xerxes Society, to highlight locations with high firefly diversity for conservation using R, Maxent, and generalized additive models

Indiana University—Purdue University Indianapolis (IUPUI)

Indianapolis, IN

IUPUI REU Program in Mathematics – Undergraduate Research Assistant

June – July 2019

Research Experiences for Undergraduates (REUs) are selective summer programs funded by the National Science Foundation

- Constructed a hybrid kinetic Monte Carlo method developed from a generalized Cellular Potts Model towards the goal of replacing contemporary, gradient-based Multi-Material Topology Optimization methods using MATLAB
- Presented results through a poster and a 20+ minute presentation at the 2019 Indiana Undergraduate Math Research Conference, the IUPUI CRL Student Summer Poster Symposium, and the IUPUI Engineering and Technology REU Poster Symposium

Moffitt Cancer Center

Tampa, FL

Department of Epidemiology – Research Assistant

June – July 2018

- Analyzed how the neutrophil-to-lymphocyte ratio differed across population groups of a healthy demographic of over eighty-thousand individuals using the statistical computing and data analysis programming language R
- Coauthored a research paper regarding the findings made during the project was published by Annals of Epidemiology
- Published the paper's abstract in the American Association for Cancer Research's (AACR) annual 2019 Proceedings of the AACR

High School Internship Program in Integrated Mathematical Oncology – Research Trainee

June – July 2017

- Conducted novel research about intracellular convective flow using mathematical modeling and higher order differential equations
- Programmed and simulated two-dimensional and three-dimensional cellular models with the Navier-Stokes Equations in MATLAB
- Coauthored a research paper that was published by PLOS Computational Biology

PUBLICATIONS

Co-Author: Rachel Howard, Aaron Scheiner, Jessica Cunningham, Robert Gatenby, Cytoplasmic convection currents and intracellular temperature gradients. PLOS Computational Biology, November 2019, 15(11): e1007372; <https://doi.org/10.1371/journal.pcbi.1007372>

Co-Author: Rachel Howard, Aaron Scheiner, Peter A. Kanetsky, Kathleen M. Egan, Sociodemographic and lifestyle factors associated with the neutrophil-to-lymphocyte ratio. Annals of Epidemiology, October 2019, Volume 38, Pages 11-21.e6, ISSN 1047-2797; <https://doi.org/10.1016/j.annepidem.2019.07.015>

Co-Author: Rachel Howard, Aaron Scheiner, Kathleen M. Egan, Abstract 3299: Socio-demographic and lifestyle factors associated with the neutrophil-to-lymphocyte ratio: A systematic evaluation of the United States National Health and Nutrition Examination Survey. Cancer Research, July 2019, Volume 79 (13 Supplement) 3299; <https://doi.org/10.1158/1538-7445.AM2019-3299>

UNIVERSITY LEADERSHIP

Rutgers Honors College Ally Program, *Honors College Ally*

May 2019 – Present

- Provide counseling for first-year mentees to help them acclimate to college
- Mentor first-year Honors College students as they navigate new opportunities and build professional portfolios

Rutgers Undergraduate Mathematics Association, *External Vice President*

February 2019 – Present

- Host and organize semi-weekly events for 40+ undergraduate and graduate mathematics students at Rutgers
- Coordinate guest lectures and departmental events to increase faculty-student interaction and engagement

Rutgers Honors College Ambassadors, *Honors College Ambassador*

February 2019 – Present

- Provide specialized Honors tours independently to groups of 20+ people
- Lead unscripted student panel discussions for audiences of 200+ prospective students and families

Rutgers One-to-One Peer Tutoring Program, *One-to-One Peer Tutor*

February 2019 – December 2019

- Tutor Linear Algebra, Computer Science, Differential Equations, and Mathematical Reasoning to improve academic outcomes
- Apply pedagogical techniques for clear and concise explanations of complex topics

AWARDS AND ACTIVITIES

Awards: 2020 Bernstein Scholar, 8th Heidelberg Laureate Forum Participant, Research Excellence Award, Dean's List All Semesters, U.S. Presidential Scholars Program Candidate, National Merit Scholar Commendation, AP Scholar with Distinction, Mensa Membership

Activities: Rutgers Kol Halayla Acapella Group, Rutgers Table Tennis Club, Rutgers Hillel's Koach, National Society for Collegiate Scholars Rutgers Chapter, Tampa Preparatory School Chamber Chorus, including performances at Carnegie Hall and Disney Candlelight Processional

SKILLS

Skills: Autodesk Inventor Certified User, MATLAB (Advanced), R (Advanced), Java (Advanced), C (Intermediate), Assembly (Intermediate), Python (Intermediate), Mathematica (Basic), Public Speaking, Client Service, Microsoft Office Suite (Excel, PowerPoint, Word, Publisher, Access), Prezi, Hebrew (Basic), Spanish (Basic), Data Analysis, Computational Biology, Object-Oriented Programming

INTERESTS

Influential Authors: Isaac Asimov, Frank Herbert, Aldous Huxley, Yukio Mishima, Liu Cixin, George Orwell, Dan Simmons

Interests: Reading, Singing, Table Tennis, Traveling, Rock Music, Graduate School