

GENERAL OZOCHIAWAEZE

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EDUCATION

- PhD, Mathematics, Purdue University, Expected: 2026
- MS, Applied Mathematics, New Jersey Institute of Technology, 2021
- BA, Mathematics, Rutgers University, 2018

RESEARCH EXPERIENCE

MIT Lincoln Laboratory

Lexington, MA

Undersea Signal Processing Intern

May 2022-Aug 2022

- Optimized real operational performances of sonar arrays deployed in random ocean environments.
- Designed signal processing algorithms in MATLAB for active and passive sonar applications.
- Performed parameter estimation of acoustic spatial and temporal coherence degradation of signals of a multi-acoustic sonar array system.
- Delivered presentations to sponsors and working groups to effectively communicate proposed solutions and completed analysis.

New Jersey Institute of Technology

Newark, NJ

Graduate Researcher

Jul 2020-May 2021

- Implemented simulation of acoustic wave scattering in underwater environments in Python, MATLAB, and COMSOL.
- Critically analyzed properties, trends, and features in ocean beds by solving problems in high frequency underwater acoustics.
- Communicated professionally with faculty to meet deadlines and complete research.

New Jersey Institute of Technology

Newark, NJ

Research Assistant

Oct 2020-May 2021

- Improved algorithms for motion-planning shape formation of multi-robot systems, reducing arm collisions by 65%.
- Analyzed data on the shape formation and assembly of a group of robots via intermittent diffusion and the conjugate gradient method.
- Maintained and re-configured different target-tracking robotic systems for experiments.

TEACHING AND MENTORING EXPERIENCE

Purdue University

West Lafayette, IN

Graduate Teaching Assistant

Aug 2021-Present

- Prepared and led active learning lectures for undergraduate university students.
- Coordinated with other lecturers to unify course material and improve student experiences.

Little Ivy Academy

Ridgewood, NJ

STEAM Summer Camp Counselor

Jun 2021-Aug 2021

- Passionately taught hands-on classes in robotics, programming smartphone apps in C#, stop animation movies, and website design.
- Successfully managed campers and junior staff with patience and good humor.
- Prepared and maintained lab spaces throughout the day.

New Jersey Institute of Technology

Newark, NJ

Grader

Sep 2020-May 2021

- Assisted course instructors with the grading of exams, assignments, quizzes, and projects.
- Supervised and administered examinations of university students.
- Monitored students during exams to ensure that testing guidelines are followed.

Accel Learning*Math Instructor***Secaucus, NJ***Aug 2020-Dec 2020*

- Taught online courses in test preparation for AMC, AIME, Math Kangaroo, and other math competitions.
- Additionally provided 1-on-1 tutoring services for SAT, ACT, and SCAT Test Prep.

New Jersey Institute of Technology*Recitation Instructor***Newark, NJ***Sep 2019-May 2020*

- Created supporting lectures for undergraduate math courses and instructed weekly recitation classes.
- Devoted special emphasis to punctuality and worked to maintain outstanding attendance record, consistently arriving to work ready to start immediately.
- Provided on-campus support to students in a receptive, positive, learning-oriented environment.

Mathnasium*Math Instructor***Glen Rock, NJ***Sep 2018-Jan 2019*

- Employed teaching and learning strategies that cultivated the abilities and intellectual curiosity of students in grades K-12.
- Projected a leadership role onto the students to guide them through each subject and problem.

Penn State Global Programs*International Student Orientation Leader***University Park, PA***Aug 2014-Sep 2014*

- Helped incoming international students with information and resources for their successful arrival on campus.

RELEVANT SKILLS

- **Programming Languages:** Python, Java, C++, C#, LaTeX
- **Operating Systems:** Windows, Linux, UNIX-based systems
- **Software:** MATLAB, COMSOL, FeNiCs, Mathematica, Maple
- **Languages:** English, French (Conversational), Reading Knowledge of Latin.

AWARDS AND HONORS

- GEM Fellow, 2022
- Graduate Tuition C/startup Research Grant, New Jersey Institute of Technology, 2021
- Member of Tau Sigma Honors Society for Transfer Students, 2016
- Dean's list, Rutgers University, 2016-2018

PUBLICATIONS

Ozochiawaeze, General, "Finite element modeling of underwater acoustic environments and domain decomposition methods" (2021). Theses. 1837. <https://digitalcommons.njit.edu/theses/1837>