

Clinton Enwerem

Research Interests

Systems & Control, Reinforcement Learning, Robotics.

Education

- 2021-Date **PhD, Electrical & Computer Engineering**, *University of Maryland*, College Park, MD, USA
Expected May 2026. Advisor: Professor John S. Baras.
- 2014-2018 **B.Eng., Electrical Engineering**, *University of Nigeria*, Nsukka, Enugu, Nigeria
GPA: 3.84/4 (*First-Class Honors*). Emphasis: Control Theory.

Selected Publications

Under Review

- 2023 **Clinton Enwerem** and John S. Baras. Safe Collective Control under Noisy Inputs and Competing Constraints via Non-Smooth Barrier Functions, November 2023.
- 2023 **Clinton Enwerem**, John S. Baras, and Danilo Romero. Distributed Optimal Formation Control for an Uncertain Multiagent System in the Plane, January 2023.

In Conference Proceedings

- 2023 **Clinton Enwerem** and John S. Baras. Consensus-Based Leader-Follower Formation Tracking for Control-Affine Nonlinear Multiagent Systems. *9th International Conference on Control, Decision and Information Technologies (CoDIT)*, 2023.

Journal Articles

- 2024 **Clinton Enwerem** and John S. Baras. Formation Tracking for a Class of Uncertain Multiagent Systems: A Distributed Kalman Filtering Approach. *To appear in the IEEE Control Systems Letters*, volume 8, 2024.

Research Experience

Institute for Systems Research (ISR), University of Maryland

- Aug. 2021-Date **Graduate Research Assistant**
Research Foci: Safety-Critical Control, Risk-Aware Path Planning, Statistical Learning.

Electrical Engineering Department, University of Nigeria, Nsukka

- Sep. 2018-Mar. 2021 **Research Assistant**
Research Topics: Robust Control, Observer-Based Compensator Design, Feedback Linearization.
- Aug.-Oct. 2017 **Undergraduate Research Assistant**
Research Topics: Feedback Control, Time-Delayed Systems, System Identification.

Professional Experience

ISR & University System of Maryland at Southern Maryland, California, MD

- Jun.-Aug. 2022 **Research Intern**
Worked in collaboration with the MATRIX Lab (<https://matrix.umd.edu>) on problems encompassing multi-agent cooperative control, formation control, and target tracking under sensor uncertainty. Supervisor: Dr. Danilo Romero.

Robotics & Artificial Intelligence Nigeria (RAIN), Ibadan, Nigeria

- Mar. 2020-Feb. 2021 **Robotics Trainee**
Saw varied robotics and IoT projects through hardware and software development stages comprising computer-aided design, prototyping, firmware development, and testing.

2239 A. V. Williams Building – University of Maryland, College Park, MD 20742, USA.

☎ (+1) 301-405-7904 • ✉ enwerem@umd.edu • 🌐 clintonenwerem.com

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Honors & Awards

- 2022 2022-2023 Microsoft Diversity in Robotics & Autonomy PhD Fellowship.
- 2022 ROSCon Diversity Scholarship: Travel grant to attend ROSCon 2022 in Kyoto, Japan.
- 2021 Finalist, Engineers' League, Pan-African Robotics Competition, Rwanda.
- 2021 CIT Dean's Fellowship, Carnegie Mellon University, Africa Campus, Kigali, Rwanda.
- 2021 Dean's Fellowship, University of Maryland, College Park, MD, United States.
- 2020 Scholar, Stanford Exposure to Research & Graduate Education, Stanford University, CA, USA.
- 2020 EducationUSA Opportunity Funds Program Scholarship, U.S. Consulate General, Lagos, Nigeria.
- 2020 Sole Recipient (Nationwide), Door Foundation Leadlight Scholarship, RAIN.
- 2016-2018 Agbami Science & Technology Scholarship, Chevron: Merit-based undergraduate scholarship.
- 2015-2018 MTN Foundation Scholarship: Nationwide merit-based undergraduate scholarship.

Technical Skills

- Robotics *Tools:* ROS/ROS2, Gazebo, RViz, MoveIt!; *Robots:* Crazyflie 2.X, Turtlebot2, UR5.
- Programming Python, Matlab, C++, Bash, \LaTeX , Tk, R.
- Engineering MCUs, Prototyping, Altium Designer, SolidWorks, Fusion 360, KiCAD.
- Frameworks Jupyter, TensorFlow, OpenCV.
- Optimization Gurobi, Pyomo, Mosek.
- Statistics JAGS.
- Web HTML, CSS, JavaScript, Markdown.
- OS Linux, Windows.
- Version Control git, GitHub, GitLab.

Talks

- 2023 "Consensus-Based Leader-Follower Formation Tracking for Control-Affine Nonlinear Multiagent Systems." Delivered at the 9th International Conference on Control, Decision, and Information Technologies.

Relevant Courses

Doctoral

- Fall 2023 Decision-Making for Robotics.
- Spring 2023 Network Control Systems, Decision Making Under Uncertainty: RL, Control, & Games.
- Fall 2022 Random Processes in Communication & Control, Advanced Digital Signal Processing.
- Spring 2022 Nonlinear Control Systems, Optimal Control.
- Fall 2021 System Theory, Convex Optimization.

MOOCs

- Summer 2023 Bayesian Statistics I by the University of California San Diego (*with honors*).
- Summer 2022 Autonomous Navigation for Flying Robots by the Technical University of Munich.
- Spring 2022 Principles of Robot Autonomy I & II by Stanford University.

Academic Service

- 2023 Peer Reviewer: Heliyon, MED'23, ECC'24.

Outreach & Mentoring

- 2021-Date Member, Black in Robotics (BiR): BiR is a U.S. organization dedicated to promoting Black representation in robotics. Website: <https://blackinrobotics.org>.
- 2021-2022 Mentor, EducationUSA and the iScholar Initiative: provided guidance to outstanding STEM college graduates from underrepresented backgrounds, which culminated in their securing full-ride admission offers from leading grad programs at Stanford, Purdue, and Penn State.

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