Clinton Enwerem

0201B Engineering Annex Building
University of Maryland
College Park, MD 20742, USA

enwerem@umd.edu
(+1) 301-405-7904
https://coenwerem.github.io

Research Interests

Applied Control Theory, Multiagent Systems

Education

University of Maryland, College Park, MD, USA
Ph.D., Electrical & Computer Engineering, Expected May 2026

University of Nigeria, Nsukka, Enugu, Nigeria
Bachelor of Engineering, Electrical Engineering, Aug 2018 — GPA: 3.84

Research Experience

Research Assistant — Aug 2021 – Present
Institute for Systems Research, University of Maryland — College Park, MD
- Research Focus: Networked Multiagent Systems, Trusted Autonomy.
- Advisor: Professor John S. Baras

Graduate Research Assistant — Sep 2018 – Mar 2021
Control & Instrumentation Lab – EE Department, University of Nigeria, Nsukka — Enugu, Nigeria
- Research Themes: Robust Control, Observer-Based Compensator Design, Feedback Linearization.

Undergraduate Research Assistant — Aug – Oct 2017
Control & Instrumentation Lab – EE Department, University of Nigeria, Nsukka — Enugu, Nigeria
- Research Themes: Feedback Control, Time-Delayed Systems, System Identification.

Professional Experience

Research Intern — Jun - Aug 2022
University System of Maryland at Southern Maryland — California, MD
- Worked in collaboration with the MATRIX Lab on problems spanning multi-agent cooperative control, formation control, and target tracking.
- Supervisor: Dr. Danilo Romero

Robotics Trainee — Mar 2020 – Feb 2021
Robotics & Artificial Intelligence Nigeria — Ibadan, Nigeria
- Built hardware and wrote visual SLAM software for a modular differential-drive mobile robot.
- Prototyped a low-cost flight control and communications system for a quadrotor delivery drone as part of a team.
- Developed software for an obstacle-avoiding, teleoperable, and ROS-compliant ground vehicle equipped with a single-board computer and a ranging sensor.

Selected Publications

Preprints:
- **C. Enwerem**, J. Baras, and D. Romero, "Distributed Optimal Formation Control for an Uncertain Multiagent System in the Plane," arXiv preprint, 2023. Available at: https://arxiv.org/abs/2301.05841.
- **C. Enwerem**, I. Okoro, "Optimal Controller Tuning Technique for a First-Order Process with Time Delay," arXiv preprint, 2022. Available at: https://arxiv.org/abs/2210.08187. *Under review.*

Journal Papers:
- I. Okoro and **C. Enwerem**,"Robust Control of a DC Motor," Heliyon, vol. 6, no. 12, pp. 1-8, 2020, **doi**: 10.1016/j.heliyon.2020.e05777.

Conference Papers:
- I. Okoro and **C. Enwerem**, "Model-based Speed Control of a DC Motor using a Combined Control Scheme," 2019 IEEE PES/IAS PowerAfrica, Abuja, Nigeria, 2019, pp. 1-6, **doi**: 10.1109/PowerAfrica.2019.8928856.

Technical Skills

Robotics Tools: ROS, Gazebo, RViz, MoveIt!.
Robots: Crazyflie 2.X, Turtlebot2.
Hardware/Engineering: MCUs, Prototyping, Altium Designer, SolidWorks, Fusion 360.
Programming: Matlab, C/C++, Python, Bash, LaTeX, Tk.
Frameworks/Libraries: Jupyter, TensorFlow, OpenCV.
Optimization: Gurobi, Pyomo.
Web: HTML, CSS, JavaScript, Markdown.
Operating Systems: Linux, Windows.
Version Control: git, GitHub, GitLab.

Relevant Courses

Doctoral: Convex Optimization, System Theory (Fall 2021); Nonlinear Control Systems, Optimal Control (Spring 2022). Random Processes, Advanced Digital Signal Processing (Fall 2022); Network Control Systems, Decision Making Under Uncertainty: Reinforcement Learning, Control, and Games (Spring 2023).
MOOC: Autonomous Navigation for Flying Robots by TUM (Summer 2022); Aerial Robotics by UPenn (Fall 2022).
Postbaccalaureate Training: Advanced Control Theory for Mobile Robots, AI for Humanoid Robotics, Control Theory & IoT (2020).

Honors & Awards

- Recipient, 2022-2023 Microsoft Diversity in Robotics & Autonomy Fellowship (2022).
- Diversity Scholar, ROSCon 2022, Open Robotics, Mountain View, CA, USA (2022).
- Finalist, Engineers' League, Pan-African Robotics Competition, Rwanda (2021).
- Recipient, CIT Dean's Fellowship, Carnegie Mellon University, Africa Campus, Kigali, Rwanda (2021).
- Recipient, Dean's Fellowship, University of Maryland, College Park, MD, United States (2021).
- Scholar, Stanford Exposure to Research & Graduate Education, Stanford University, CA, USA (2020).
- Recipient, EducationUSA Opportunity Funds Program Scholarship, U.S. Consulate General (2020).
- Recipient, Door Foundation Leadlight Scholarship, Robotics & Artificial Intelligence Nigeria (2020).
- Recipient, Agbami Science & Technology Scholarship, Chevron (2016-2018).
- Recipient, MTN Foundation Scholarship (2015-2018).

Outreach & Mentoring

- Member, Black in Robotics – a U.S. organization that promotes Black representation in robotics.
- Mentor, EducationUSA and the iScholar Initiative - guiding outstanding STEM college graduates from underrepresented backgrounds to secure full-ride grad admission offers in the U.S.