CLINTON ENWEREM

2239 A. V. Williams Bldg., 8223 Paint Branch Dr., University of Maryland, College Park, MD 20742, USA
O: 301-405-7904 | enwerem@umd.edu | clintonenwerem.com | LinkedIn: Clinton Enwerem

PROFESSIONAL SUMMARY

Electrical Engineer & Robotics Researcher with 4+ years of experience in:
• Safe, robust, optimization-based motion planning and control for robotics (wheeled mobile robots and quadrotors).
• Deep reinforcement learning applications in mobile robotics.
• HIL and SIL robot hardware/software development using ROS(2), C++, Python, and Docker.
My research focuses on simulation-based, practically-grounded motion planning and control techniques for critical robot navigation problems.

EDUCATION

University of Maryland, College Park — MD, USA
Ph.D., Electrical & Computer Engineering. Expected Spring 2026. — Aug. 2021 – Present

University of Nigeria, Nsukka — Enugu, Nigeria
Bachelor of Engineering, Electrical Engineering (Control Theory Emphasis). GPA: 3.84. — Aug. 2018

WORK EXPERIENCE

Graduate Research Assistant — Aug. 2021 - Present
Institute for Systems Research (ISR), University of Maryland — College Park, MD

• Model and solve motion planning and control optimization problems using Pyomo, Ipopt, Gurobi, and Mosek.
• Develop Python, MATLAB, and C++ scripts to test and validate robust motion planning and control algorithms.
• Automate experiment workflows by writing custom YAML/XML configuration files and shell scripts (Bash, Zsh).
• Publish research findings in conference/journal papers, technical reports, and presentations.

Research Intern — Jun. - Aug. 2022
ISR & University System of Maryland at Southern Maryland (USMSM) — California, MD

• Conducted system identification experiments to validate a twelve-dimensional state-space linearized model of a Crazyflie 2.1 quadrotor.
• Developed a Lagrangian-based optimal swarm control algorithm for coordinating 10 Crazyflie quadrotors tasked with formation tracking under localization uncertainty.
• Wrote ROS-compliant and performant software (Python) implementing the control algorithm, and prepared a research paper and a technical report to summarize research findings.

Robotics Trainee — Mar. 2020 – Feb. 2021
Robotics & Artificial Intelligence Nigeria — Ibadan, Nigeria

• Developed high-performance and ROS-compliant visual SLAM and control software for a modular differential-drive ground mobile robot.

PROJECTS

Risk-Regularized QR-DQN for Safe RL | *Python, TensorFlow, SafetyGymnasium* — Nov. – Dec. 2024
A risk-sensitive quantile regression DQN algorithm for safety-aware distributional RL in dynamic environments.

Risk-Aware Motion Planning under Static Map Ambiguity | *C++, ROS2, Bash* — May – Jun. 2024
A CVaR-based (global) path planning algorithm for robust navigation under static map uncertainty.

Robust Motion Planning under Stochastic Model Uncertainty (Paper) | *Python, Bash* — Jan. – Mar. 2024
A log-linear and (CVaR-based) risk-aware adaptation of the RRT algorithm.*

Robust Autonomous Navigation of a Delivery Robot (Code) | *Python, C++, ROS* — Jun. – Aug. 2021
ROS package for real-time collision avoidance with IMU, camera, and LiDAR. Africa-wide competition finalist.

TECHNICAL SKILLS

Robotics	ROS/ROS2, Gazebo, RViz, MoveIt!, Webots	**ML Packages**	Tensorflow, PyTorch, OpenCV
Programming	Matlab, C++, Python, Bash, LaTeX	**Optimization**	Gurobi, Pyomo, Mosek, Ipopt
RL Sandboxes	PyBullet, Safety-Gymnasium, Open-AI Gym	**Dev Tools**	git, GitHub, GitLab, Docker

REFERENCES

Available on request.