Clinton Enwerem | Résumé

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Summary

Doctoral candidate in Electrical & Computer Engineering at the University of Maryland researching robot learning, dexterous robotic grasping and manipulation, and multi-modal uncertainty estimation. Experienced in designing and implementing robust grasp planning and control algorithms for robotic arms with anthropomorphic hands, validated through high-fidelity simulation (MuJoCo, Isaac Sim) and real hardware (UR3e, xArm7, LEAP Hand). Seeking research engineering, applied ML, or robotics roles.

Education

2021-Date **PhD, Electrical & Computer Engineering**, University of Maryland, College Park, MD. Advisors: Prof. John S. Baras and Prof. Calin Belta. Relevant Coursework: Decision-Making for Robotics, Nonlinear Control Systems, Optimal Control, Convex Optimization, Decision Making Under Uncertainty.

2014-2018 **B.Eng., Electrical Engineering**, University of Nigeria, Nsukka. First-Class Honors.

Skills

Robotics	ROS 2, MuJoCo, GraspIt!, Isaac Sim
RL/ML	PyTorch, OpenAI Gym, Safety Gymnasium, TensorFlow, OpenCV
Robots/EoATs	UR3e, xArm7, LEAP Hand, RealHand L6
Programming	Python, C++, MATLAB, Bash
Optimization	CVXPY, Gurobi, Mosek
Tools	Git, GitHub, Docker, LaTeX

Selected Publications

2026 **Clinton Enwerem**, J. S. Baras, and C. Belta, "Risk-Constrained Belief-Space Optimization for Safe Control under Latent Uncertainty," arXiv preprint, 2026. arXiv link

2025 **Clinton Enwerem**, A. G. Puranic, J. S. Baras, and C. Belta, "Safety-Aware RL for Control via Risk-Sensitive Value Iteration and Quantile Regression," CDC 2025.

2024 **Clinton Enwerem**, E. Noorani, J. S. Baras, and B. M. Sadler, "Robust Stochastic Shortest-Path Planning via Risk-Sensitive Incremental Sampling," CDC 2024.

2024 **Clinton Enwerem** and J. S. Baras, "Safe Collective Control under Noisy Inputs and Competing Constraints via Non-Smooth Barrier Functions," ECC 2024.

Research Experience

Institute for Systems Research, University of Maryland

8/2021-Date **Graduate Research Assistant**

- Collaborate with PI, postdocs, and graduate researchers to design novel robust grasping and manipulation algorithms for robotic arms equipped with anthropomorphic hands.
- Implement ROS 2-compliant software in Python and C++ for grasp planning and control.
- Validate algorithms through large-scale simulation in MuJoCo and Isaac Sim, and RL sandboxes (OpenAI Gym, Safety Gymnasium).
- Author conference and journal papers, technical reports, and presentations.

Professional Experience

Kognitive Robotics, Lagos, Nigeria

3/2020-2/2021 **Robotics Engineer**

- Engineered the complete power and sensor-actuator interface circuitry for a mobile robot using Altium for schematic capture and PCB design.
- Supported robot hardware and ROS(1)-compliant software realization for the company's MVP.

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

3/2020-2/2021 **Robotics Trainee**

- Contributed to robotics projects across hardware and software stacks, including CAD, rapid prototyping, sensor fusion, and control firmware development.

Teaching Experience

ECE Department, University of Maryland

9/2025-12/2025 **Graduate Teaching Assistant**

- ENEE467 — Robotics Project Laboratory (Prof. Calin Belta). Mentored 50+ students in kinematics, 3D perception, motion planning, and ROS 2 control. Built reproducible Docker-based labs.

2/2025-5/2025 **Graduate Teaching Fellow**

• ENEE661 — Nonlinear Control Systems (Prof. John S. Baras). Led problem-solving sessions on Lyapunov stability, input-to-state stability, and nonlinear analysis.

Projects

• `simple_urdf_parser` — Compact URDF parsing toolkit for fast manipulator kinematics and C-space sampling. (Python) GitHub

• `Imitation Learning for Grasp Stabilization` — Trained neural policies (MLP and LSTM) via behavior cloning from expert demonstrations to stabilize grasps under perturbations using tactile and proprioceptive observations. (Python, PyTorch, MuJoCo)

Honors & Awards

2024 IEEE CSS Student Travel Award (CDC 2024).

2022 Microsoft Diversity in Robotics & Autonomy PhD Fellowship (2022-2023).

2022 ROSCon Diversity Scholarship, Kyoto, Japan.

2021 Dean's Fellowship, University of Maryland.

2020 Scholar, Stanford Exposure to Research & Graduate Education.