Symaedchit Octavius Leo

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SUMMARY

Computer engineer who builds simulation, test and autonomy software: a ROS 2/Nav2 fault-injection harness, an Unreal Engine sensor simulator on ROS 2, and GPU-parallel RL. Seeking robotics, simulation and test roles.

EXPERIENCE

Associate (Java Full Stack Developer) · Revature, McLean, VA — Jun 2026 – Present
Client: large U.S. financial services company

- Develop features for an enterprise fraud case-management application: a Spring Boot 3 service (Java 17, REST and GraphQL APIs, MongoDB, AWS S3) and Angular 17 micro frontends.
- Ship changes through a CI/CD pipeline that runs unit and BDD integration tests (JUnit 5, Mockito, Cucumber, WireMock; Jest, Cypress), code-quality and security scans, and Kubernetes deployments.
- Plan and build features with an AI coding agent using spec-driven development (Kiro specs and steering rules).

Java Full Stack Pre-Employment Program · Revature — Feb–May 2026

- Completed full-time Java full stack and test automation training; co-built the capstone (Java 21, Spring Boot, Spring Security/JWT, Angular; 83 passing tests) and its Jenkins CI/CD pipeline on AWS EC2.

Machine Operator (Seasonal) · Western Diverse Plastics — Jun–Jul 2023, Jul–Aug 2024

PROJECTS

Built with an AI coding agent under spec-driven development; every number below comes from a seeded script in the repository.

Autonomy Test Harness · *ROS 2 Jazzy, Nav2, Gazebo Harmonic, Docker, Jenkins, Python* — Autonomy-Test-Harness

- Built a scenario-based test system for Nav2 on TurtleBot 4: a seeded generator of feasible YAML scenarios, a lidar fault-injector node (noise, dropout, latency, freeze, sector blackout) and a ground-truth-only oracle.
- Paired experiment, 30 scenarios × 7 conditions (210 headless Docker runs, Wilson CIs): Nav2 passed 100% unfaulted, 80% under sector blackout, 0% under scan dropout or freeze; oracle caught false successes.
- Jenkins pipeline (Configuration as Code) builds the image per commit, runs the unit/property tests, runs the smoke suite on change and the full suite nightly, and publishes one JUnit case per scenario.

Sensor Sim Sandbox · *Unreal Engine 5.8 (C++), ROS 2 Jazzy, rosbridge, Python* — Sensor-Sim-Sandbox

- Built a drivable Unreal Engine 5.8 rover whose lidar (16 × 360 rays), camera, IMU and GPS share a seeded noise/dropout/latency pipeline and stream to ROS 2 Jazzy over rosbridge as PointCloud2, images and TF.
- Logged every capture with ground truth and wrote the analysis that checks each sensor's bias, std, RMSE, dropout, latency and rate against its configuration (lidar std 0.0200 m vs 0.02 set); 33 Unreal automation tests.

Learned Opponents · *Python, PyTorch, MuJoCo Warp, rsl-rl PPO, ONNX, Unreal Engine 5.8 (C++)* — Learned-Opponents

- Trained PPO navigation policies for a differential-drive robot in 4,096 GPU-parallel MuJoCo Warp arenas, baseline vs. domain-randomized, 3 seeds: at 200 ms action and observation latency the baseline fell to 0.131 success vs. 0.896.
- Exported the policies to ONNX and ran them in an Unreal Engine 5.8 game via NNE; an automated sim-to-sim transfer check on identical layouts measured a +0.013 success gap (2 of 150 episodes).

EMG Arm-Wrestling Game System · *C, TI Tiva C (TM4C123) microcontroller* — ECE-480-Team-12-TI-EMG-AWS

- Sole software member of a four-person Texas Instruments-sponsored senior design team (Fall 2025): wrote TM4C123 C firmware (ADS131M02 ADC, SSD1351 OLED, four game modes) measuring EMG as a 100 ms zero-crossing rate.

TECHNICAL SKILLS

Languages	Python, C++, C, Java, SQL, TypeScript, MATLAB
Robotics & Sim	ROS 2 Jazzy, Nav2, Gazebo Harmonic, rosbridge, Unreal Engine 5.8, MuJoCo Warp, OpenCV
ML	PyTorch, PPO (rsl-rl, Stable-Baselines3), domain randomization, ONNX Runtime
Embedded	TI Tiva C (TM4C123), Code Composer Studio, sEMG acquisition and signal features
Testing & CI/CD	pytest, Hypothesis, Unreal Automation, JUnit 5, Cucumber, Jenkins, GitHub Actions, Docker

EDUCATION

Michigan State University · B.S. Computer Engineering · GPA 3.31/4.0 — Dec 2025

Kalamazoo Valley Community College · A.S. Chemical Physics · GPA 3.94/4.0 — Apr 2023