NOAH HATHOUT

nhathout11@gmail.com | +1 (704) 777-7361 | noahhathout.com | linkedin.com/in/noah-hathout/ | github.com/nhathout | Boston, MA

EDUCATION

M.S. in Robotics & Autonomous Systems (R&AS), Boston University | GPA: 4.00 / 4.00 *Expected Jan 2027*

B.S. in Computer Engineering, Boston University | GPA: 3.73 / 4.00 | Cum laude May 2025
Concentration: Machine Learning

RELEVANT COURSES

Intro to R&AS | Vision, Robotics, & Planning | Image & Video Computing | Smart/Embedded Systems | ML / DL / RL

SKILLS

Languages: Python, C, C++, C#, Java, JavaScript, MATLAB/Simulink, SQL
Robotics / Embedded: ROS 2, Linux, ESP32, Raspberry Pi, BeagleBone Black, Jetson AGX Orin, UR5e/UR10e
ML / Perception: PyTorch, TensorFlow, YOLOv8, Visual SLAM, depth cameras (Intel RealSense, Orbbec), Isaac Sim
Engineering Tools: Git, GitHub, Docker, GitHub Actions, pytest, SQL/SQLite, FastAPI, OnShape

EXPERIENCE

Lead Software Engineer Danvers, MA · Hybrid
UMG Technologies, Inc. June 2025 - Present

- Modernizing a legacy C# industrial automation platform into a maintainable 64-bit codebase.
- Revamped operator UX to reduce mistakes and speed up common workflows.
- Migrated the repository to GitHub with structured versioning and releases, protected branches, and led rapid debugging of production machines under tight deadlines.
- Building and deploying the next-gen corporate website (full-stack).

R&D Intern, Innovation Lab Odense, Denmark · On-site
Universal Robots May 2024 - Sep 2024

- Led a high-impact computer vision project in the Innovation Lab integrating depth-sensing cameras.
- Developed real-time, containerized, robotics software using ROS 2, C++/Python, NVIDIA libraries, and Docker.
- Collaborated daily in an agile environment (Bitbucket/JIRA): merged code, documented tasks, and debugged.
- Delivered a final demo showcasing future product capabilities and advanced vision-based robotic applications.

Teaching Assistant (EK131) Boston, MA · On-site
Boston University, College of Engineering Jan 2023 - May 2023

- Supported students via office hours; maintained Ender-3 V2 3D printers and managed on-demand print requests.

PROJECTS

***BROS2 (Block ROS2)* - EC601 Product Design in ECE |** Electron/TypeScript, Docker, ROS 2 Sep 2025 - Present

- Building a cross-platform desktop IDE to compose ROS 2 graphs via drag-and-drop block interface.
- Implemented a Docker-based ROS runner to create workspaces and execute ROS 2 commands, enabling repeatable environments across macOS/Linux.

***Pollux* - EC463/464 Senior Design** | ROS 2, PPO, Raspberry Pi Sep 2024 - May 2025

- Designed a ROS 2 mobile robot that disinfects surfaces with UV-C LEDs while avoiding obstacles and cliffs.
- Crafted a custom PPO reinforcement learning reward structure achieving 60%+ coverage without edge violations.
- Integrated ultrasonic and IMU sensors into a real-time perception stack; deployed fully on a Raspberry Pi 4B.

***TiltGolf* - EC535 Embedded Systems** | BeagleBone, kernel driver, Qt Sep 2025 - Dec 2025

- Built a tilt-controlled golf game on BeagleBone with an LCD.
- Wrote a kernel-space IMU driver to stream filtered tilt angles into a Qt UI.
- Implemented physics-based ball motion and level system; created a host-side Box2D test environment for tuning.

***Trashformer* - EK505 Intro to Robotics & Autonomous Systems** | YOLOv8, OpenCV Sep 2025 - Dec 2025

- Built a real-time waste perception pipeline using YOLOv8 (COCO) mapped into 4 bins (organic/paper/plastics/landfill) for downstream robot behavior.
- Streamed per-frame JSON outputs (class, confidence, etc.) and visual overlays designed for control integration.

Additional Projects:
Smart Home API Core (FastAPI) · *ChatSheetsAI* (CSV/NL→SQLite/SQL) · *PIRA* (ESP32 RTOS + multi-robot logging) · *SuperTuxSmart* (RL reward shaping) · *PyP2PChat* (encrypted P2P)

AFFILIATION: IEEE (Student Member)