NOAH HATHOUT

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EDUCATION

M.S. in Robotics & Autonomous Systems (R&AS) with Thesis, Boston University *Expected Dec 2026*

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

RELEVANT COURSES

Robot Learning | 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, Docker, Raspberry Pi, BeagleBone Black, ESP32, Jetson, UR5e/UR10e
ML / Perception: PyTorch, TensorFlow, OpenCV, MobileNetV3, YOLOv8, ViT/DINO, Visual SLAM, depth cameras
Engineering Tools: Git, GitHub, GitHub Actions, pytest, SQLite, FastAPI, OnShape, JIRA/Bitbucket

EXPERIENCE

AI Engineer Intern (M.S. Thesis) North Reading, MA · Hybrid
Universal Robots Jun 2026 - *Present*

- Completing M.S. thesis work in an R&D setting focused on applied AI for robotics.
- Work will involve robotics software development, model experimentation, evaluation, and integration with real robotic systems.

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

- Modernizing a legacy C# industrial automation platform into a maintainable 64-bit codebase.
- Migrated engineering workflow to GitHub with structured releases, protected branches, and faster production debugging under tight deadlines.
- Built, deployed, and am maintaining the company's next-generation full-stack corporate website.

R&D Intern, Innovation Lab Odense, Denmark · On-site
Universal Robots May 2024 - Aug 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 in an agile workflow using Bitbucket & JIRA to share code, track tasks, and deliver a final demo.

PROJECTS

***From Pixels to Poses* — Monocular 6-DoF Camera Pose Regression** Feb 2026 - May 2026

- Compared CNN, ViT, and DINO visual backbones for APR-style camera pose regression across indoor MS 7-Scenes and outdoor Extended Cambridge/KingsCollege datasets.
- Trained separate pose-regression models, evaluated position/orientation error, and analyzed predictions using Grad-CAM and patch-token attribution.

***TrashformerPro* — Raspberry Pi Smart-Bin Classification Prototype** Jan 2026 - May 2026

- Built a low-cost embedded waste-classification prototype using a Raspberry Pi 5, upward-facing camera, clear acrylic plate, LEDs, buzzer, web app, and local runtime logging for model fine-tuning.
- Trained and deployed a MobileNetV3-Large four-class classifier with empty-plate differencing and confidence-gated inference: achieved 95.29% test accuracy after real Pi feedback fine-tuning.

***BROS2 / Block ROS 2* — EC601 Product Design in ECE** | *Best Project of Fall 2025* Sep 2025 - June 2026

- Built a cross-platform desktop IDE for composing ROS 2 graphs through a drag-and-drop block interface.
- Implemented a Docker-based ROS runner to create workspaces and execute ROS 2 commands in repeatable macOS/Linux environments.

***Pollux* — Autonomous Surface-Disinfecting Robot** | Senior Design Sep 2024 - May 2025

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

Additional Projects: *TiltGolf* – BeagleBone IMU kernel driver + Qt/Box2D game · *PIRA* – ESP32 RTOS + multi-robot logging · *SuperTuxSmart* – RL reward shaping for game control · *ChatSheetsAI* – CSV/NL-to-SQLite analysis tool

AFFILIATION: IEEE (Student Member)