

# NIMROD CURTIS

## Deep Learning and Robotics Algorithm Engineer

M.Sc. in Robotics with hands-on experience in learning-based perception and control. Skilled in developing and deploying deep learning models for perception and imitation learning on real robots. Passionate about bridging robotics with AI research to advance adaptive robotic behavior.

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 [github.com/nimiCurtis](https://github.com/nimiCurtis)

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 Personal Website

### INTEREST

- Deep learning
- Robotics
- Computer vision
- Algorithms
- Perception

### SOFTWARE

#### Programming:

- Python
- C++
- MATLAB

#### Tools & libraries:

- PyTorch
- OpenCV
- Git
- Linux
- ROS(1/2)

#### Engineering:

- Solidworks
- 3D printing
- Mechatronics

### SKILLS

- Self & quick learner
- Team player
- Problem solving
- Solution-oriented thinking
- Leadership

### PROFESSIONAL EXPERIENCE

#### 2024-Present | Robotics & AI Researcher, Postgraduate Full Time Internship | Bosch Corporate Research

Developed AI-driven perception and manipulation algorithms for robotic assembly at Bosch.

- Designed and deployed vision pipelines for 6D pose estimation and tracking using foundation models, enabling robust part grasping under real-world conditions.
- Developed and trained end-to-end deep learning-based perception and policy models, including generative architectures for part insertion skill learning.
- Integrated multi-modal sensing for real-time object detection and robust control in robotic disassembly.

#### 2022-2024 | Course Instructor, Computational Intelligence | Tel Aviv University

- Designed and led Python-based labs on genetic algorithms, fuzzy logic, and deep learning fundamentals.
- Mentored students on applying ML concepts to perception and robotics problems.

#### 2020-2022 | Integration System Engineer | Indoor Robotics

- Build and tested autonomous indoor drones and docking stations.
- Collaborated with algo and software teams to validate computer-vision-based localization and mapping.
- Conducted system-level integration and optimization for real-world reliability.

### RESEARCH EXPERIENCE & ACADEMY

#### 2022-2024 | M.Sc in Robotics, Mechanical Engineering | Tel Aviv University

- GPA 95/100, Dean's List.

Research Area I - Visual Imitation Learning for Navigation. [\[project website\]](#).

- Developed a vision-based policy for human-following and navigation using imitation learning and generative models. Created an embodiment-agnostic framework deployable across multiple robot platforms without mapping.

Research Area II - Human-Robot Perception for Smart Exoskeletons:

- Designed a stereo-vision and intent-recognition pipeline enabling obstacle-aware, user-driven locomotion.

#### 2022-2024 | Research Assistant at Tel-Aviv University's Robotics Lab

Research Area - In-hand perception and sim2real for robotic manipulation. [\[project website\]](#).

- Contributed to SightGAN for zero-shot sim-to-real transfer of tactile sensors using GAN-based domain adaptation.
- Supported the development of in-hand perception and visuotactile learning pipelines for robotic manipulation.

#### 2018-2022 | B.Sc, Mechanical Engineering | Tel Aviv University

- GPA 89/100

Final Project: Built an autonomous indoor delivery robot using ROS, Jetson Nano, and Arduino; integrated navigation and object-delivery control. Outstanding Final Project. [\[project website\]](#).

### PUBLICATIONS

- \*Curtis, N., \*Azulay, O., Sintov, A., (2024). Embodiment-Agnostic Navigation Policy Trained with Visual Demonstrations (preprint) [\[arXiv\]](#).
- Azulay, O., Cutris, N., Metha Ramesh, D., Sintov, A. (2024). Visuotactile-Based Learning for Insertion with Compliant Hands. IEEE RAL [\[arXiv, project website\]](#)
- \*Azulay, O., \*Curtis, N., Sintov, A., \*Mizrahi, A., (2023). Augmenting Tactile Simulators with Real-like and Zero-Shot Capabilities. ICRA 2024 [\[arXiv\]](#)
- Azulay, O., Curtis, N., Sintov, A et al. (2023). AllSight: A Low-Cost and High-Resolution Round Tactile Sensor with Zero-Shot Learning Capability. IEEE RAL [\[arXiv\]](#)

\*Equal contribution

### PATENTS

- S. Hazan, N. Curtis, A. Agafonov, and D. Di Castro, "IndustRoPose: Zero Shot Real-Time 6D Pose Tracking for Industrial Robotic Manipulation", Patent disclosure under review with Bosch, 2025.
- S. Hazan, N. Curtis, A. Agafonov, and D. Di Castro, "AI-Derived Robotic Screwing Using an Affordable Screwdriver", Patent disclosure under review with Bosch, 2025.

### IDF MILITARY SERVICE

#### 2012-2016 | Combat Service in the Submarine Unit | Sergeant major

- Served as Commander and Weapons Department specialist in the Israeli Navy Submarine Unit. Selected as Outstanding Cadet (Class 103).