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NIMROD CURTIS

Deep Learning and Robotics Research Engineer

SUMMARY

M.Sc. in Robotics with a strong background in deep learning, computer vision, and algorithm development for autonomous systems. Hands-on experience in imitation learning, and robotic manipulation and perception for real-world applications. Actively seeking roles at the convergence of deep learning, algorithms and robotics.

INTEREST

- Robotics
- Deep learning
- 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

Research of robotic manipulation and perception at BCAI-Haifa, developing AI-driven solutions for UR5E-based assembly automation in Bosch plants.

Research Area:

- Learning Insertion skill using behavior cloning and Dagger paradigm.
- 6D pose estimation from mono-RGB input for precise robotic grasping.
- Implement unscrewing skill using object detection module and force control.

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

Designed and delivered hands-on python exercises covering topics such as genetic algorithms for optimization, fuzzy logic and intro to ML & DL.

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

Build, operate and design tests of autonomous drones and docking systems. Applied electronics expertise, optimized processes, and leveraged lab experience.

RESEARCH EXPERIENCE & ACADEMY

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

- GPA 95/100
- *Research Area I: Learning from visual human demonstrations.* [*project website*]

Developed a visual navigation policy using imitation learning from human demonstrations. Built an embodiment-agnostic framework deployable across robots without mapping, leveraging generative models for robust person-following from visual input.

- *Research Area II: Human-Robot Interaction and perception for smart exoskeleton.*

Developed a stereo vision and intent recognition pipeline for smart exoskeletons to enable obstacle-aware, user-intent-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 the development of SightGAN, enabling zero-shot sim2real transfer for tactile sensors by enhancing simulator realism.
- Implemented tactile simulation environment and supported domain adaptation techniques for real-world generalization.

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

- GPA 89/100

Final Project: Developed an autonomous mobile robotic cart. [*project website*]

- Built an indoor autonomous mobile robot for navigation and object delivery using ROS.
- Developed control software (Python/C++) and integrated Jetson Nano, Arduino, and sensors.
- Combined robotics, software, and hardware to address real-world logistics tasks.

Relevant Coursework: Deep learning , SLAM and perception for autonomous navigation, Computer Vision, Human-Robot Interaction, Introduction to Robotics (+Lab), Control theory, Systems Dynamics and Control, Computational Intelligence.

AWARDS

- Dean's least, M.Sc, Tel Aviv University, 2025.
- Awarded the Faculty Scholarships for M.Sc excellence, M.Sc, Tel Aviv University, 2024.
- Received travel award from the IEEE Robotics and Automation Society (RAS), M.Sc, Tel Aviv University, 2024.
- Outstanding final project of Mechanical Engineering faculty, B.Sc, Tel Aviv University, 2022.

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

WORKSHOPS & POSTERS

- Agafonov, A., Hazan, S. & Curtis, N. “ ”, IMVC2025 | Poster.
- Curtis, N. & Sintov, A. “A Framework for Safe and Natural Mobility in Lower Limb Exoskeletons”, ICRA2024, Workshop on emerging technologies in smart exoskeletons systems | Poster.

IDF MILITARY SERVICE

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

- Commander at the unit training course
- Contributed in a combat position within the Submarine's Weapons Department.
- Outstanding cadet in the submarines training course (Class 103)