

# Elad Sharony

Ph.D. STUDENT - ELECTRICAL AND COMPUTER ENGINEERING | (RL)<sup>2</sup>

[✉ eladsharony@campus.technion.ac.il](mailto:eladsharony@campus.technion.ac.il) | [✉ EladSharony](https://www.linkedin.com/in/eladsharony/) | [✉ Elad Sharony](https://www.instagram.com/elad_sharony/) | [@elad\\_sharony](https://twitter.com/elad_sharony) | [✉ Elad Sharony](https://www.facebook.com/elad.sharony)

## Research Interests

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My research focuses on reinforcement learning and optimization for dynamical systems. I leverage vision-language models (VLMs) and large language models (LLMs) to enhance data efficiency, exploration, and decision-making, enabling robust perception, reasoning, and generalization in robotics, autonomous systems, and high-dimensional environments.

## Publications and Preprints

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### Learning Multiple Initial Solutions to Optimization Problems

ELAD SHARONY, HENG YANG, TONG CHE, MARCO PAVONE, SHIE MANNOR, PETER KARKUS

*Under Review, ICRA '26*

### See, Score, Sample: VLM-Guided Experience Replay

ELAD SHARONY, TOM JURGENSON, ORR KRUPNIK, DOTAN DI CASTRO, SHIE MANNOR

*Under Review, ICML '26*

## Research / Industry Experience

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### Bosch Center for Artificial Intelligence (BCAI)

RESEARCH INTERNSHIP

*Apr 2024 - Oct 2024*

- Developed a novel method using Vision-Language Models to optimize reinforcement learning through enhanced replay buffer prioritization

### Intel Corporation

CONTROL ENGINEER

*Apr 2021 - Jan 2023*

- Designed and integrated a data-driven autotune pipeline for thermal controllers. Additionally, developed, and deployed a pneumatic control system to ensure stable and reliable thermal contact.

## Education

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### Technion - Israel Institute of Technology

PH.D., ELECTRICAL AND COMPUTER ENGINEERING (DIRECT TRACK)

*Mar' 22 - Present (Expected 2027)*

- Integrating fast (System 1) and slow (System 2) thinking into RL and optimization for robotics and autonomy.
- Advisor: Prof. Shie Mannor
- GPA: 92.0

### Technion - Israel Institute of Technology

BACHELOR OF SCIENCE, MECHANICAL ENGINEERING

*Oct' 18 - Mar' 22 (Early Bird)*

- Non-contact topographic sensing using vibration and machine learning to predict the distance between surfaces.
- Advisors: Prof. Itzhak Bucher and Dr. Yoav Vered
- GPA: 94.9 (Summa Cum Laude)

## Teaching and Mentoring

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**Teaching Assistant** Control Theory, Control System Design, Control Systems 1

**Project Supervision** CRML: Developing Robotic Knot-Tying Skills, Reinforcement Learning Related Isaac Simulator

## Honors and Awards

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**Reamim – Selective Program Supporting Outstanding Research-oriented Students** Oct' 18 – Mar' 22

**President's List for Academic Excellence** Fall 21/22, Spring 20/21, Fall 20/21

**Dean's List for Academic Excellence** Spring 19/20, Fall 19/20, Spring 18/19

## Services

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**Reviewer** CoRL (2025), ICLR (2026)

**Technical Editor** Mannor, Shie, Yishay Mansour, and Aviv Tamar. *"Reinforcement Learning: Foundations."*

## Skills

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**Programming** Python, MATLAB, C

**Physics Simulators** Nvidia Isaac Lab, DeepMind MuJoCo, PyBullet, Simulink