Ethan Niv

(929) 969-5684 • en2456@nyu.edu • Brooklyn, NY 11224• LinkedIn •Website

Robotics, path planning and control engineer with experience deploying real-time, hardware–software systems

EXPERIENCE

Robotics Graduate Teaching Assistant - Mechatronics, Dynamics, Math for Robotics and Foundations of Robotics**,** *Sep 2025 – Present NYU Tandon School of Engineering,* New York City, United States

- Supported graduate-level robotics coursework covering kinematics, state-space control, estimation (Kalman / BLUE / SVD), and system modeling

Software Engineer , *June 2021 – December 2023*

Zalirian LTD., Tel Aviv, Israel

- Designed and implemented a production-grade, real-time edge control and perception system, integrating motors, industrial cameras, and external hardware SDKs
- Built high-performance, maintainable software architecture, leveraging multithreading, multiprocessing, design patterns, and C++/Python interoperability (Pybind), with robust logging and telemetry for real-time monitoring and post-deployment support.
- Implemented a Motion Planning algorithm to assure movement efficiency and safety in a 5DoF system with physical limitations and obstacles, thereby improving the movement efficiency and safety.

Software and Hardware Developer, *October 2018 – April 2021*

Israeli Air Force, Israel

- Spearheaded end-to-end field deployments of mission-critical hardware/software systems, overseeing physical installation, sensor integration, and system validation in live environments.
- Reverse-engineered and modernized legacy airborne and sensor systems, integrating new hardware with existing infrastructure.
- Interfaced with complex sensor and data acquisition systems, applying signal processing to evaluate system accuracy, reliability, and safety.
- Performed system-level fault analysis and debugging to support flight investigations and operational readiness. • Delivered solutions in environments requiring high reliability, rapid diagnosis, and clear technical documentation.

SKILLS

Software: Python, C++, ROS2, GIT, Pybind, LabVIEW, OpenCV, PyQt, MatLab, Simulink

Technical: Motion Planning, Control Theory, Signal Processing, Sensor and Actuator Integration, Project Management, Client-Development,Requirements analysis, Device Drivers & SDK Integration

PROJECTS

M.Sc Mechatronics Projects: Programmed a SCARA robot arm that can reproduced intricate sketches using RPi, Arduino and ArUco markers. Simulator for forward and inverse kinematics of a 6DOF robotic arm; Path Planning on UR16e robotic arm in Gazebo using ROS2; Designed and implemented MPC, MPPI controllers for a simulated drone / robotic arm, Designed a full AMR simulation from dynamics, to motion planning and multiple controllers, using a modular architecture for switching between planners and controllers.

B.S Final Project: Designing and implementing a self-balancing quadrotor drone control system.

EDUCATION

New York University Tandon School of Engineering Anticipated Graduation May 2026 M.S in Mechatronics and Robotics - Current GPA 3.96

Courses: Mechatronics, Foundations of Robotics, Mathematics for Robotics, Gait and Manipulation, Advanced Mechatronics, Reinforcement Learning and Optimization, Autonomous Mobile Robots, Localization

Tel Aviv University Graduated June 2020 B.S. in Electrical Engineering and Computer Science

Courses: Introduction to Control Theory; Control Laboratory, Practical Feedback Systems; Introduction to Digital Control; Introduction to Modern Linear Control Theory; Advanced Laboratory for Control, Algorithms for Robotic Motion Planning, Algorithms for Robotic Motion Planning Workshop