

ROY ORBACH

Aerospace Engineer | Guidance, Navigation & Control (GNC)

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PERSONAL DETAILS

Nationality:	Israeli	Current Residence:	Herzliya, Israel (Prepared to relocate)
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PROFESSIONAL PROFILE

An aerospace engineer with a decade of experience in Guidance, Navigation, and Control (GNC), launch operations, and satellite systems engineering. Skilled in breaking down complex challenges, algorithm development, and real-time problem solving. Proven track record in international space industry collaborations and with a love for innovation and entrepreneurship. Believes that with the right team the sky is just the lower limit.

WORK EXPERIENCE

01/2022 – Present	Airspace & Missile Test Range Safety Engineer Defense Industry • Israel - Use large-scale data wrangling and atmospheric databases to predict risks to both personnel and the general population during test range launch operations from designated sites. - Establish operational launch parameters and safety supervision protocols to mitigate hazards in strict adherence to rigorous safety standards. - Identify hazardous operational zones and support real-time the coordination of airspace and maritime rerouting directly with civil and military transport authorities. - Develop algorithms and graphical user interface (GUI) tools in MATLAB for the optimization and automation of risk evaluation workflows. - Effectively present key findings and technical clearance briefings in high-profile closed-door sessions.
01/2023 – 12/2025	Coordinator & Mechanics Instructor (Part Time) "TEVEL 2" High School Nano-Satellite Constellation Project • Herzliya Science Center • Herzliya, Israel - Supervised the full lifecycle of CubeSats, from mission concept through PDR, CDR, environmental testing, system integration, launch, and orbital operations. - Mentored high school engineering teams, guiding technical execution and advising final graduation capstone projects toward official external accreditation. - Taught core STEM courses including astrophysics, calculus, mathematics, mechanics of materials, and engineering design. - Coordinated multi-institution efforts within a nationwide student satellite constellation program and organized high-profile launch tracking events.

EDUCATION

10/2022 – Present	Master of Engineering (M.E.) in Aerospace Engineering Technion – Israel Institute of Technology • Haifa, Israel Core Focus: Guidance, Navigation, and Control (GNC).
10/2017 – 08/2021	Bachelor of Science (B.Sc.) in Aerospace Engineering Technion – Israel Institute of Technology • Haifa, Israel Core Foci: Astronautics, Aeronautics, Control & Navigation, Propulsion. Minor: Innovation & Entrepreneurship (Department of Industrial Engineering & Management). Capstone Project: Guidance & Control Team Lead for "Cornetto" – an experimental supersonic research missile validating novel guidance laws.
9/2013 – 10/2017	Alumnus of the Track for Scientific-Technological Leadership (With honors) Handasaim Herzliya High School (Formerly Tel-Aviv University Secondary School) • Herzliya, Israel Core Foci: Maths, Physics, Engineering Sciences, Informatics, English. Public Volunteering: Guiding the public through dedicated tours in the Givataim Observatory. Capstone Project: Worked on the Duchifat-1 and Hoopoe nanosatellites—among the first K12 students-built satellites in the world. Part of the representative delegation to the launch of Hoopoe from the US.

CONTINUING EDUCATION & TRAINING

06/2025 – 08/2025

Space Studies Program (SSP25 Seoul)

International Space University (ISU) • Seoul, South Korea

- Completed an intensive 2-month multidisciplinary professional development program across 7 disciplines: space engineering, space physical sciences, satellite applications, policy, law, management, and human performance in space.
- Collaborated within an international cohort on a team research flagship project.

LEADERSHIP & COMMUNITY ENGAGEMENT

2018 – 2020, 2023 – 2025

National Point of Contact (NPoC) for Israel

Space Generation Advisory Council (SGAC) in support of the UN-COPUOS

- Served as the official national liaison for domestic space industry professionals and international working groups.
- Organized industry networking forums and international youth outreach initiatives.

2016-2017

Founder and Organizer

Shavit Community—Israel's first youth space community

- The community secured the Israel Space Agency as a sponsor and collaborated with many space education organizations in the country to organize events and tours for youth in the fields of engineering and space.

SKILLS & QUALIFICATIONS

Languages:

Hebrew (Native), English (Fluent / Full Professional Proficiency – C2), German (A2)

Programming & Tools:

MATLAB, Simulink, C#

Core Competencies:

Airspace Range Safety & Risk Modeling, CubeSat Systems Engineering, Algorithm Development, Guidance, Navigation & Control (GNC)

Communication & Leadership:

Executive Briefings & Senior Leadership Presentations, Public Speaking, Scientific Education & Project Management
