

Anastasia Karamantzani

Athens, Greece | anastasia.krmn@gmail.com | +30 6985631267 | [in/anastasiakaramantzani/](https://www.linkedin.com/in/anastasiakaramantzani/)

Education

National Technical University of Athens (NTUA)

Graduated October 2025

Integrated Master's Degree in Mechanical Engineering

- Specialization in Mechanical Design and Automatic Control

Projects

Machine Design Laboratory NTUA

October 2024 – October 2025

Diploma thesis

- Designed and optimized a passive vibration isolation base for an SLA 3D printer using additively manufactured lattice structures (TPU diamond unit cells) and metamaterial-inspired macro-scale geometry
- Performed material homogenization of lattice unit cells in ANSYS to extract effective orthotropic mechanical properties
- Conducted modal and harmonic response analyses under base excitation using the Mode Superposition (MSUP) method in ANSYS Mechanical
- Investigated the influence of unit cell geometry, strut thickness, volume ratio and material (PLA, TPU) on natural frequency and transmissibility
- Performed a qualitative shaker table test to experimentally identify dominant natural frequencies of the 3D printer and compare trends with numerical modal analysis results
- Generated manufacturing-ready lattice geometries from CAD designs using nTopology

Shell Eco Marathon - Prometheus Eco Racing NTUA Team

May 2019–September 2022

Team Leader of Mechanical Design and Manufacturing

- Led the team's transition from the Prototype category of the Shell Eco Marathon to the more advanced Urban Concept (an innovative highly efficient electric city vehicle)
- Designed and analyzed a space-frame chassis using SolidWorks (Design, Simulation), focusing on manufacturability and cost efficiency that led to a 26% weight reduction
- Managed the design and fabrication of all mechanical systems, including the custom motor assembly
- Gained hands-on experience working with composite materials (wet lay-up carbon and glass fiber)
- Collaborated with a multidisciplinary team of engineers, laboratory staff, professors and industry partners, ensuring smooth workflow and on-time delivery of key components.
- Presented team's work and vision at international events (Verde.Tec, Energia.Tec), engaging sponsors and increasing public awareness

Volunteering

EESTEC LC Athens (Electrical Engineering STudents' European assoCiation)

May 2019 - July 2019

Cultural Exchange Organizer

- Oversaw logistics for over 100 participants, including registration, travel arrangements and accommodation ensuring all needs were met for a seamless experience
- Developed and coordinated a schedule for 7 days of team-building activities and social events, fostering collaboration and strengthening relationships among participants

Skills

CAD Software: ANSYS (Mechanical, Modal, Harmonic Response, Material Designer), Cura, Ntopology, SolidWorks

Languages: Greek (Native speaker), English (C2), German (B2)