

Alexandros Nikolaou

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Portfolio | LinkedIn | Berlin, Germany

PROFESSIONAL SUMMARY

Robotics Systems Engineer specialized in bridging the **Sim-to-Real** gap for autonomous robots and industrial manipulators. Expert in **low-level middleware optimization** (Linux Kernel, RDMA) and **Embodied AI**. Proven track record of accelerating market entry for startups and leading international deployments in complex, unstructured environments.

TECHNICAL SKILLS

Robotics & AI: ROS 1 & 2, SLAM, MoveIt2, Gazebo, Webots, Navigation Stack, LLM Agents, PyTorch, Keras, Tensorflow, OpenCV, Reinforcement Learning

Systems & Software: C++, Python, CUDA, Linux Kernel, RDMA, Docker, Wireshark, Git

Engineering & Design: SolidWorks, ANSYS (FEA), 3D Printing (FDM & Powder-based), Simulink, Matlab

Languages: Greek (Native), English (C1), German (A1.2)

EXPERIENCE

Freelancer

Berlin, Germany

Robotics & AI Engineer

Oct 2025 – Present

Conbotics

Berlin, Germany & Singapore

Robotics Deployment Engineer

Apr 2025 – Present

- Accelerated company market entry by 6 months directing international robot deployment in Singapore; bridge the Sim-to-Real gap by identifying and resolving physical-layer discrepancies through debugging, monitoring and telemetry analysis.
- Architecting a unified, Dockerized deployment framework for seamless transition between simulation and site hardware.

Bosch

Magdeburg, Germany

Software Engineer - Autonomous Driving

Mar 2023 – Oct 2024

- Optimized sensory data exchange throughput and latency of the autonomous vehicle middleware stack by 10% using C++, CUDA, and shared memory techniques.
- Identified and resolved microsecond-level bottlenecks by performing Linux kernel debugging and network packet analysis with Wireshark.

University of Potsdam

Potsdam, Germany

Robotics Research Engineer

Feb 2022 – Nov 2022

- Architected a unified ROS2 framework for industrial UR3e manipulators, integrating Computer Vision and NLP modules for the Cocobots HRI project; published findings at ICRA 2022.

Conbotics

Berlin, Germany

Robotics Software Engineer (Employee #1)

Apr 2021 – Feb 2022

- Developed the full-stack autonomous navigation software for the mobile base prototype, including SLAM tuning, path planning, Lidar-based obstacle avoidance, CNN-based object detection and PID wall following.

Airbond (Aerospace R&D)

Newport, Wales

Mechanical Design Trainee

Dec 2018 – Jun 2019

- Engineered aerospace composite splicer prototypes using SolidWorks and Industrial 3D Printing (HP Jet Fusion); work directly contributed to the Queen's Award for Innovation and expected to add 1 million p.a. turnover.

EDUCATION

KTH Royal Institute of Technology / TU Berlin

Stockholm / Berlin

MSc in Autonomous Systems (Grade: 1.7 / Top 5% - GPA: 3.7/4.0)

2019 – 2022

- Specialized in applications of robotics and autonomous systems.

- Acquired a Minor in innovation and entrepreneurship.

National Technical University of Athens (NTUA)

Athens, Greece

Diploma in Mechanical Engineering (Grade: 8.3/10 - Top 10%)

2013 – 2018

- 5 years program (300 ECTS) - Bachelor and MEng equivalent.

- Specialized in mechanical design, robotics and control systems.

LEADERSHIP & HONORS

- **UN Youth Representative:** Recognized as one of the 100 Young Climate Leaders globally; part of the youth OGCI taskforce.
- **Scholarships:** EIT Digital Excellence Full Scholarship and Leventis Foundation Excellence Full Scholarship.
- **Awards:** Cyprus Ministry of Education first prize award for best student project; NTUA's second prize award for the most innovative project.
- **Competitions:** Climate Launchpad Cyprus Finalist (2020)- reYOUse: Waste management web solution; Hult Prize Competition Greece Finalist (2017)
- EIT Digital Alumni and EIT Climate-KIC Alumni.

EXTRACURRICULAR TRAINING

- **Internships:** Research Assistant on Vehicle - Pedestrian Interaction (The Cyprus Institute, 2018); Research Assistant on Vehicle - Pedestrian Interaction Simulation (CYENS Research Centre, 2019); Sustainable Business Development (Pioneers into Practice Internship, 2020).
- **Technical Training:** Swarm Robotics Advanced Course (Delft University); Smart Mobility Summer School (EIT Digital - University of Trento - Developed a wagon tracking for Mercitalia); Climate Innovation Summer School (EIT Climate KIC - University of Copenhagen, University of Hamburg, ETH Zurich - Developed a carbon capture solution); AI Agents Course (HuggingFace, 2025); Complete Self-Driving Car Course (Udemy, 2021); Advanced 3D Printing Training (HP, 2019).
- **Military Service:** Telecommunication Officer Designate (National Guard of Cyprus, 2011 - 2013); achieved the highest non-commissioned rank based on IQ, academic merit, and physical testing; led a cohort of 40 soldiers; managed the communications department; authored telecom operations manual.

VOLUNTARY EXPERIENCE

- **Owner - Memorandum:** Maintained a page to promote youth opportunities. That was the successor of Youth Hero page that served the same purpose.
- **Main Coordinator - Green Deal 4 Cyprus:** Promoted social and environmental transition in Cyprus through the European Green Deal.
- **Project Manager - Fotspår:** Managed partners' collaboration in Sweden.
- **Main Organizer - BEST:** Organized advanced courses on sustainable transportation and member of the core team for European BEST Engineering Competition Greece.
- **Other:** participated in 3 Erasmus+ youth exchanges; co-authored the Ungdomsoen Manifesto; Co-authored the Sustainable Transportation Manifesto - Generation Climate Europe; Maintainer of a ride-sharing platform: Car Share Cyprus platform.

INTERESTS

Sports: Classic Marathon runner, hiking, climbing, tennis, and cycling.

Arts: Improv theatre, DJing, music production, guitar, and salsa/house dance.

Personal: Blood donor; Book lover.