Curriculum Vitae

Dr. Odysseas Kechagias-Stamatis

Personal Information

- **Email**: o.kechagias@hna.gr
- **Mob**: +30 6943483099
- **Languages**: Greek (native language), English (Proficiency), German (Advanced)
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Professional Summary

Senior defence specialist with expertise in navigation, weapons systems, electronic warfare, and guided missile technologies on a research, technical and operational level. Military and defence research experience, leading critical projects in target recognition and autonomous navigation for military, space and commercial applications. Experience in Academia, project management, and personnel management due to previous positions in educational, administrative, and technical roles, as well as decision-making positions as a Navy Officer.

Working Experience

- **2020-today | Academic Editor, EditSprings, China**
- **2019-2022 | Researcher and Visiting Fellow, City University of London, U.K.**, (department: Electrical and Electronic Engineering)
    - R&D and proposal writing for programs related to computer vision and AI for the detection, recognition, and tracking of objects/targets and for the autonomous passive navigation of various types of military, space, and civilian applications (drones, robotic platforms)
- **2018-today | Researcher and Visiting Fellow, Cranfield University, U.K.**, (department: Centre of Electronic Warfare, Information and Cyber)
    - As presented above
- **2013-today | Visiting Lecturer**, **Hellenic Naval Academy, Greece** (department: Combat Systems and Naval Operations)
- **2002-today | Hellenic Navy Officer,** deck Officer, WEO (Weapons Engineering Officer)
    - Commanding Officer and Executive Officer in various warships
    - Head of Guided Missiles Department at the Naval Weapons Directorate of Salamis Naval Base
    - Member of the study committee for the installation of the SPIKE NLOS missile system on OSPREY Class ships
    - Head of the negotiation committee for the mid-life renovation of the EXOCET MM40 B3 guided missiles
    - Member of the organizing committee for the NATO Naval Electro Magnetic Operations (NEMO) trials 2024, focusing on the evaluation of Electronic Warfare (EW) systems and tactics
    - Member of the evaluation committee for the candidate guided missiles of the Greek FDI/ BELH@RRA frigates
    - Project Manager for the installation of the HARPOON missile system on Fast Attack Crafts

Education

- **2017 | Ph.D. in Defence and Security**, Cranfield University, UK, sponsored by MBDA U.K.
  Thesis: "3D Automatic Target Recognition for Future LIDAR-based Missiles"
- **2011 | M.Sc. in Guided Weapon Systems**, Cranfield University, UK, sponsored by the Hellenic Navy
  Thesis: "Automatic Infrared-based Image Recognition for Maritime Target Evaluation"
- **2007 | Advanced Defence & Electronic Warfare Training**, Hellenic Armed Forces
- **2002 | B.Sc. in Naval Sciences**, deck Officer**,** Hellenic Naval Academy

Research Interests

- Autonomous navigation for robotic and military systems
- AI-driven target recognition (SAR, IR, LIDAR, Optical) and multi-domain data fusion
- LIDAR-based perception for defence and space applications
- Computer vision and sensor fusion for military applications
- GNSS-denied positioning and electronic warfare-resistant navigation

Research Projects involved

[*Co-I*] indicates participation as Co-Investigator

- **Planetary RObots deployed for Assembly and Construction Tasks (Pro-ACT) (2019-2020)** – Path-planning for autonomous lunar robotic platforms, focusing on multi-agent collaboration for planetary exploration (awarded by H2020). https://www.h2020-pro-act.eu/
- **Integrated 3D Sensors (I3DS) (2017-2018)**– Development of LIDAR-based perception and sensor fusion for autonomous space missions, enhancing spacecraft navigation (awarded by H2020). https://eross-h2020.eu/i3ds/
- **Robotics & Remote Sensing for HMA & ERW Survey (2017-2018)** – AI-driven landmine detection using hyperspectral imaging and autonomous ground vehicles (awarded by GCRF UK). [*Co-I*]
- **Infrared-Simultaneous Localisation And Mapping for Planetary Rovers (2017-2018) –** IR SLAM for space rover applications (awarded by UK Space agency). [*Co-I*]
- **Unmanned Auto-Return Urban Driving for Small Electronic Vehicles (2017-2018) -** Develop navigation algorithms for autonomous vehicle driving in GPS-limited areas by exploiting visual and laser means (awarded by EPSRC UK). [*Co-I*]
- **Pothole Identification and Management Autonomous System (2016-2017)** - AI-based pothole detection scheme (awarded by EPSRC). [*Co-I*]
- **An Active Learning Framework for Threat Object Detection (2016-2017)** – Detecting guns in hand luggage using X-rays (awarded by Home Office UK).
- **Target tracking development programme (2016)** – Target tracking algorithm (awarded by General Dynamics UK).
- **Feasibility and performance of 3D ATR for missile systems (2015)** – LIDAR-based target recognition for missile systems (awarded by MCM ITP - UK MoD and DGA).

Publications

[1] A. Zenati, N. Aouf, and O. Kechagias-Stamatis, "Distributed Fuzzy Semi-Infinite Auction Based Optimization for Cooperative Robots Tasks Allocation," in 2022 American Control Conference (ACC), Jun. 2022, pp. 1898–1903.

[2] O. Kechagias-Stamatis and N. Aouf, "Automatic Target Recognition on Synthetic Aperture Radar Imagery: A Survey," IEEE Aerosp. Electron. Syst. Mag., vol. 36, no. 3, 2021.

[3] O. Kechagias-Stamatis, N. Aouf, V. Dubanchet, and M. A. Richardson, “DeepLO: Multi-projection deep LIDAR odometry for space orbital robotics rendezvous relative navigation,” Acta Astronaut., vol. 177, no. July, pp. 270–285, 2020.

[4] O. Kechagias-Stamatis, N. Aouf, and V. Dubanchet, “Evaluating 3D local descriptors and recursive filtering schemes for LIDAR-based uncooperative relative space navigation,” J. F. Robot., vol. 37, no. 5, pp. 848–888, Aug. 2020.

[5] O. Kechagias-Stamatis, N. Aouf, and M. A. Richardson, “Performance evaluation of single and cross-dimensional feature detection and description,” IET Image Process., vol. 14, no. 10, 2020.

[6] O. Kechagias-Stamatis and N. Aouf, “A New Passive 3-D Automatic Target Recognition Architecture for Aerial Platforms,” IEEE Trans. Geosci. Remote Sens., vol. 57, no. 1, pp. 406–415, 2019.

[7] O. Kechagias-Stamatis and N. Aouf, “Fusing Deep Learning and Sparse Coding for SAR ATR,” IEEE Trans. Aerosp. Electron. Syst., vol. 55, no. 2, pp. 785–797, Apr. 2019.

[8] O. Kechagias-Stamatis and N. Aouf, “H∞ LIDAR odometry for spacecraft relative navigation,” IET Radar, Sonar Navig., vol. 13, no. 5, pp. 771–775, May 2019.

[9] O. Kechagias-Stamatis, N. Aouf, and M. A. Richardson, “High-speed multi-dimensional relative navigation for uncooperative space objects,” Acta Astronaut., vol. 160, pp. 388–400, Jul. 2019.

[10] H. Isakhani, N. Aouf, O. Kechagias-Stamatis, and J. F. Whidborne, “A Furcated Visual Collision Avoidance System for an Autonomous Micro Robot,” IEEE Trans. Cogn. Dev. Syst., pp. 1–1, 2018.

[11] O. Kechagias-Stamatis, N. Aouf, G. Gray, L. Chermak, M. Richardson, and F. Oudyi, “Local feature based automatic target recognition for future 3D active homing seeker missiles,” Aerosp. Sci. Technol., vol. 73, pp. 309–317, Feb. 2018.

[12] O. Kechagias-Stamatis, “Target recognition for synthetic aperture radar imagery based on convolutional neural network feature fusion,” J. Appl. Remote Sens., vol. 12, no. 04, p. 1, Dec. 2018.

[13] O. Kechagias-Stamatis, N. Aouf, and D. Nam, “3D Automatic Target Recognition for UAV Platforms,” in 2017 Sensor Signal Processing for Defence Conference (SSPD), 2017, pp. 1–5.

[14] O. Kechagias-Stamatis, N. Aouf, C. Belloni, and D. Nam, “Automatic X-ray image segmentation and clustering for threat detection,” in Target and Background Signatures III, SPIE, 2017, vol. 10432, p. 24.

[15] O. Kechagias-Stamatis, N. Aouf, and L. Chermak, “B-HoD: A lightweight and fast binary descriptor for 3D object recognition and registration,” in 2017 IEEE 14th International Conference on Networking, Sensing and Control (ICNSC), 2017, pp. 37–42.

[16] O. Kechagias-Stamatis and N. Aouf, “Evaluating 3D local descriptors for future LIDAR missiles with automatic target recognition capabilities,” Imaging Sci. J., vol. 65, no. 7, pp. 428–437, Aug. 2017.

[17] O. Kechagias-Stamatis, N. Aouf, and D. Nam, “Multi-Modal Automatic Target Recognition for Anti-Ship Missiles with Imaging Infrared Capabilities,” in 2017 Sensor Signal Processing for Defence Conference (SSPD), 2017, pp. 1–5.

[18] O. Kechagias-Stamatis, N. Aouf, and C. Belloni, “SAR Automatic Target Recognition based on Convolutional Neural Networks,” in IET International Conference on Radar Systems (Radar 2017), 2017.

[19] Z. Wieszok, N. Aouf, O. Kechagias-Stamatis, and L. Chermak, “Stixel based scene understanding for autonomous vehicles,” in 2017 IEEE 14th International Conference on Networking, Sensing, and Control (ICNSC), 2017, pp. 43–48.
[20] O. Kechagias-Stamatis, N. Aouf, and M. A. Richardson, “3D automatic target recognition for future LIDAR missiles,” IEEE Trans. Aerosp. Electron. Syst., vol. 52, no. 6, pp. 2662–2675, Dec. 2016.
[21] O. Kechagias-Stamatis and N. Aouf, “Histogram of distances for local surface description,” in 2016 IEEE International Conference on Robotics and Automation (ICRA), 2016, vol. 2016-June, pp. 2487–2493.
[22] O. Kechagias-Stamatis and N. Aouf, “Fast 3D object matching with Projection Density Energy,” in 2015 23rd Mediterranean Conference on Control and Automation, MED 2015 - Conference Proceedings, 2015, pp. 752–758.

Regular reviewer

IEEE Transactions on Geoscience and Remote Sensing
IEEE Transactions on Intelligent Vehicles
IEEE Intelligent Transportation Systems Society
IEEE Photonics Journal
Elsevier, Journal of Aerospace Science and Technology
Elsevier, Journal of Defence Technology
Elsevier, Journal of Infrared Physics and Technology
Elsevier, Journal of Computer Methods and Programs in Biomedicine
IET Radar, Sonar, and Navigation
IET Image Processing

Honors / awards

2025 | Chief of the Hellenic Navy General Staff for the outstanding preparation of the NATO NEMO Trials 2024
2014 | Sponsorship from MBDA U.K. for the Ph.D. studies in «3-Dimensional Automatic Target Recognition for Future LIDAR (Light Detection and Ranging) based Missiles»
2011 | Top student award in MSc in «Guided Weapon Systems»
2010 | Sponsorship from the Hellenic Navy for the MSc in «Guided Weapon Systems»