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Dutceac Andrei

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WORK EXPERIENCE

Military Technical Academy "Ferdinand I", Bucharest

City: Bucharest | **Country:** Romania

[27/06/2019 - 28/09/2023] **IT Service & Communications Specialist Officer**

Military Technical Academy "Ferdinand I", Bucharest

City: Bucharest | **Country:** Romania

[01/10/2023 - Current] **University teaching assistant**

-Conduct laboratory and seminar sessions
-Assist in course delivery and student evaluation
-Prepare teaching materials and laboratory setups
-Support student projects and academic mentoring

EDUCATION & TRAINING

[01/10/2015 - 30/09/2019] **Bachelor's Degree**

Military Technical Academy "Ferdinand I"

City: Bucharest | **Country:** Romania | **Level in EQF:** 6

Field of study
Military Electronic Equipment and Systems

[01/10/2019 - 30/09/2021] **Master's Degree**

Military Technical Academy "Ferdinand I"

City: Bucharest | **Country:** Romania | **Field(s) of study:** Field of study Applied Electronics in Robotics for Security and Defense | **Level in EQF:** 7

LANGUAGE SKILLS

Mother tongue(s): Romanian

Other language(s):

English

LISTENING: C1 **READING:** C1 **WRITING:** C1

SPOKEN PRODUCTION: C1 **SPOKEN INTERACTION:** C1

French

LISTENING: B2 **READING:** B2 **WRITING:** B2

SPOKEN PRODUCTION: B2 **SPOKEN INTERACTION:** B1

PUBLICATIONS

[2025]

Hybrid Ant Colony and Q-Learning Algorithm for Swarm Robots: Path Planning and CollisionAvoidance

Reference: Dutceac, A., Vizitiu, I.-C., Molder, C., 2025, Hybrid Ant Colony and Q-Learning Algorithm for Swarm Robots: Path Planning and Collision Avoidance, 17th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), IEEE.

This paper proposes a hybrid ACO–Q-learning algorithm for swarm robot path planning and collision avoidance in unknown environments, improving adaptability, exploration efficiency, and swarm coordination. The approach is validated through MATLAB simulations and compared against standard ACO and Artificial Potential Field methods.

Authors: Andrei Dutceac; Iulian-Constantin Vizitiu; Cristian Molder