



Ioana-Alexandra Roșu

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WORK EXPERIENCE

SIEMENS – BRASOV, ROMANIA

SOFTWARE QUALITY ASSURANCE ENGINEER - ADVANCED – 02/2020 – CURRENT

Identify defects and report them
Assure the quality process for software development
Creation of the Test Plan
Apply Agile fundamentals

NBHX TRIM GROUP – CODLEA, ROMANIA

ENGINEERING INTERN – 10/2019 – 11/2019

Report scrap pieces using SAP

DEXION STORAGE SOLUTIONS – RASNOV, ROMANIA

SUMMER ENGINEERING INTERN – 07/2018 – 09/2018

Design storage solutions using 2D AutoCAD
Write technical documentations for the company's clients

EDUCATION AND TRAINING

2021 – CURRENT Brasov, Romania

DOCTOR OF PHILOSOPHY - PHD, MECHANICAL ENGINEERING Transilvania University of Brasov

Website unitbv.ro

01/02/2024 – 14/02/2024 Heilbronn, Germany

ERASMUS EXCHANGE Hochschule Heilbronn - Hochschule für Technik, Wirtschaft und Informatik

2019 – 2021 Brasov, Romania

SIMULATION AND TESTING IN MECHANICAL ENGINEERING Transilvania University of Brasov, Faculty of Mechanical Engineering

09/2017 – 02/2018 Plymouth, United Kingdom

ERASMUS EXCHANGE - 1 SEMESTER University of Plymouth

2015 – 2019 Brasov, Romania

INDUSTRIAL DESIGN Transilvania University of Brasov, Faculty of Product Design and Environment

LANGUAGE SKILLS

Mother tongue(s): **ROMANIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ITALIAN	A2	A1	A2	A1	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Digital competences

Matlab/Simulink | Simcenter Amesim | Simcenter Prescan | Simcenter 3D | Simcenter 3D Motion | MSC Adams | Python

PUBLICATIONS

Scientific papers

1. Antonya C, Butnariu S, **Roşu I-A**, Buzdugan I-D (2025) Eco-Driving Strategies in Autonomous and Manual Vehicle Interaction. In: Nathanail EG, Gavanas N, Adamos E (eds) Climate Crisis and Resilient Transportation Systems. Springer Nature Switzerland, Cham, pp 129–140
2. Antonya C, Iclodean C, **Roşu I-A** (2025) Enhancing Roundabout Efficiency Through Autonomous Vehicle Coordination. Vehicles 7(1):9. <https://doi.org/10.3390/vehicles7010009>
3. Buzdugan I-D, Butnariu S, **Roşu I-A**, Pridie A-C, Antonya C (2023a) Personalized Driving Styles in Safety-Critical Scenarios for Autonomous Vehicles: An Approach Using Driver-in-the-Loop Simulations. Vehicles 5(3):1149–1166. <https://doi.org/10.3390/vehicles5030064>
4. Buzdugan I-D, **Roşu I-A**, Antonya C (2023b) Development of a Simulator Tool for Teaching the Autonomous Vehicles Behavior. In: Auer ME, El-Seoud SA, Karam OH (eds) Artificial Intelligence and Online Engineering. Springer International Publishing, Cham, pp 69–80
5. Buzdugan I-D, **Roşu I-A**, Scurt FB, Antonya C (2025) Adaptive Decision-Making Framework for Autonomous Vehicles: A Reinforcement Learning Approach to Urban Traffic Safety. In: Chiru A, Covaciu D (eds) CONAT 2024 International Congress of Automotive and Transport Engineering. Springer Nature Switzerland, Cham, pp 136–147
6. **Roşu I-A**, Buzdugan I-D, Antonya C (2025) Collision Avoidance System Simulation for Occluded Pedestrian. In: Chiru A, Covaciu D (eds) CONAT 2024 International Congress of Automotive and Transport Engineering. Springer Nature Switzerland, Cham, pp 148–156
7. **Roşu I-A**, Buzdugan I-D, Carabulea L, Antonya C (2022) Simulation of a pedestrian collision avoidance using the Pedestrian Protection System
8. **Roşu I-A**, Carabulea L, Buzdugan I-D, Antonya C (2023) Time-to-collision for the Pedestrian Protection System simulation. Transportation Research Procedia 74:1325–1332. <https://doi.org/10.1016/j.trpro.2023.11.278>

HONOURS AND AWARDS

2019

2nd Prize at the Student Scientific Communication Session with the paper “High speed road divider” – Universitatea Transilvania din Braşov

2020

2nd Best Engineering Award in IDEEA

DRIVING LICENCE

Driving Licence: B